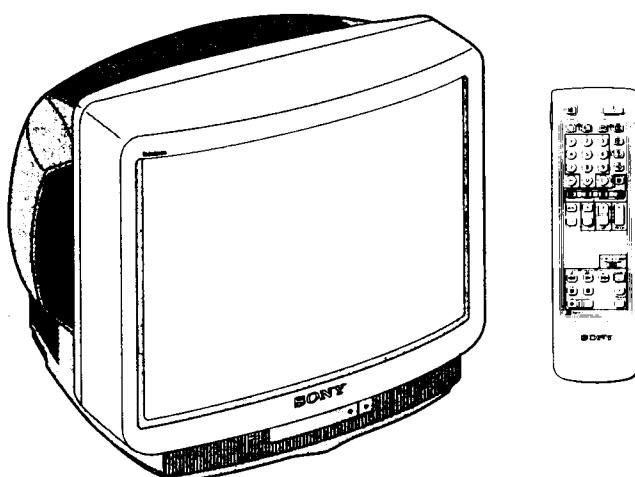


# SERVICE MANUAL

BE-3B CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2901D	RM-833	AEP	SCC-G77B-A	KV-X2903E	RM-833	Spanish	SCC-G82BA-A
KV-X2901A	RM-833	Italian	SCC-G81B-A	KV-X2902L	RM-833	IRISH	SCC-G83B-A
KV-X2900B	RM-833	French	SCC-G85B-A	KV-X2902U	RM-833	UK	SCC-G87B-A
KV-X2901B	RM-833	French	SCC-G84B-A	KV-X2901K	RM-833	OIRT	SCC-G86A-A



TRINITRON® COLOR TV  
**SONY**®



ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF:A-H2 (C) UHF: 21-69 PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K L, I	GERMAN Stereo	L VHF:F02-F10 UHF:F21-F60 CABLE:B-Q B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 I UHF:B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Irish	I	NICAM Stereo	VHF A-C, D-J, VHF 21-69 CABLE CHANNELS S1-S20 HYPERBAND S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN Stereo	B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	AEP	Italian	French Text	French Non Text	Spanish	Irish	UK	OIRT
Power Consumption	108W	108W	108Wh	108W	108W	156W	156W	108W

**SPECIFICATIONS**

**Picture Tube** Hi-Black Trinitron  
Approx. 72 cm (29 inches)  
(Approx. 68 cm picture measured  
diagonally)  
110° -deflection

**[FRONT]**  
□ 3 Video input - phono jack  
○ 3 Audio inputs - phono jacks  
□ 3S video input 4-pin DIN  
Ω Headphone jacks : stereo minijack

**Input/Output Terminals**

**[REAR]**  
□ 1 21-pin Euro connector (CENELEC standard)  
- inputs for audio and video signals  
- inputs for RGB  
- outputs of TV video and audio signals  
□ 2/□ 2 21-pin Euro connector  
- inputs for audio and video signals  
- inputs for S video  
- outputs for audio and video signals (selectable)

Sound output 2 x 20W (Music power)  
Power requirements 220 - 240V  
Dimensions Approx. 656x566x518 mm  
Weight Approx. 45kg  
Supplied accessories RM-833 Remote Commander (1)  
IEC designation R6 battery (1)  
NICAM , FASTEXT, TOPTEXT.

**[RM-833]**  
Remote control system infrared control  
Power requirements 1.5V dc  
1 battery IEC designation  
R6 (size AA)  
Dimensions Approx. 65x225x21 mm (w/h/d)  
Weight Approx. 157g (Not including batteries)

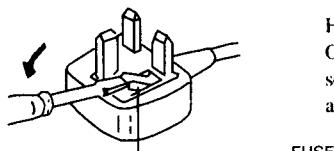
**Design and specifications are subject to change without notice.**

Model name Item	KV-X2901D	KV-X2901A	KV-X2900B	KV-X2901B	KV-X2903E	KV-X2902L	KV-X2902U	KV-X2901K
Pal Comb	OFF							
PIP	OFF							
RGB Priority	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
Woofer Box	OFF							
Scart 1	ON							
Scart 2	ON							
Front in (3)	ON							
Scart 4	OFF							
Projector	OFF							
AKB in 16:9 mode	ON							
Norm B/G	ON	ON	ON	ON	ON	OFF	OFF	ON
Norm I	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
Norm D/K	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
Norm AUS	OFF							
Norm L	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
Norm SAT	OFF							
Norm M	OFF							
Teletext	ON	ON	OFF	ON	ON	ON	ON	ON
Nicam Stereo	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
Language Preset	Deutch	Italian	French	French	Spanish	English	English	DEUT

## WARNING ( KV-X2902L / KV-X2902U only )

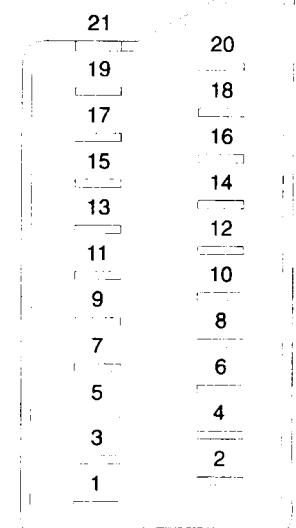
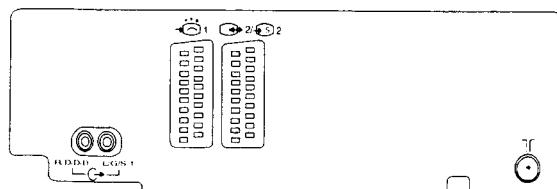
The flexible mains lead is supplied connected to a B.S. 1363 fused plug having a fuse of 5 AMP capacity. Should the fuse need to be replaced, use a 5 AMP FUSE approved by ASTA to BS 1362, ie one that carries the  mark.

IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME.  
IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED.  
THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.  
When an alternative type of plug is used it should be fitted with a 5 AMP FUSE, otherwise the circuit should be protected by a 5 AMP FUSE at the distribution board.



How to replace the fuse.  
Open the fuse compartment with the screwdriver blade  
and replace the fuse.

## 21 pin connector (◎-1 ◎ 2 / ◎ 4)

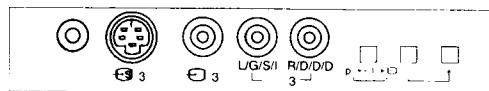


Pin No.	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedance : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance : More than 10kohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 ± 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground(blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) chroma input	0.3 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75ohms
17	○	○	○	Ground(video output)	
18	○	○	○	Ground(video input)	
19	○	○	○	Video output	1V ± 3dB, 75ohms, positive sync: 0.3V (-3+10dB)
20	○	—	—	Video input	1V ± 3dB, 75ohms, positive sync: 0.3V (-3+10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB, 75ohms, positive sync: 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open)

\* at 20Hz - 20kHz

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm , positive Sync. 0.3V -3/+10 dB
4	C (S signal) input	0.3V ± 3dB 75 ohm , positive Sync.



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### CAUTION

**SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.**

### WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD. DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

### SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ! ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### ATTENTION

**APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.**

### ATTENTION !!

**AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE. LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.**

### ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE !!

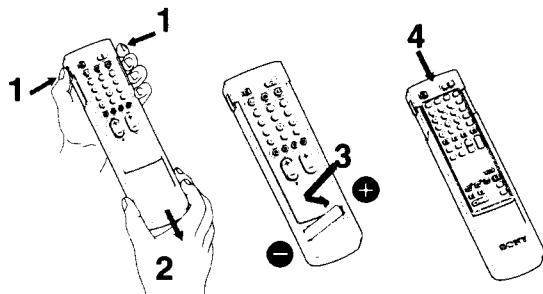
**LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MARQUE ! SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLEMENTS PUBLIES PAR SONY.**

## SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

# Getting Started

## Inserting the Battery Into the Remote Commander



Remove the cover.

Check the correct polarity.

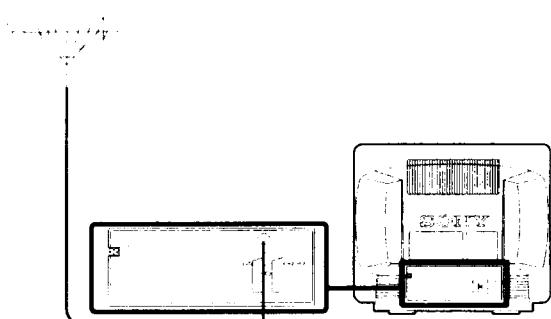
Refit the outside cover making sure that the Full Function side is visible.

### About Battery Life

Under normal operation, a battery will last up to half a year.

## Connecting the Aerial

Connect aerial to the socket at the rear of the TV. (cable not supplied)



## Choosing a Language

(See inside of front cover and back cover)

### 1 Depress on the TV.

The TV turns on. If the standby indicator on the TV is lit, press or any number button on the Remote Commander.

### 2 Press MENU on the Remote Commander.

The SELECT LANGUAGE screen appears.



- 3 Press one of the colour buttons on the Remote Commander to select a language (Press the white button to display other language alternatives). The SELECT LANGUAGE screen clears and all subsequent menus appear in the chosen language.

### SELECT LANGUAGE

- ENGLISH
- DEUTSCH
- FRANÇAIS
- ITALIANO
- MORE

SELECT COL BUTTON

**Note:** From the second time when you turn on the TV, the MENU screen appears instead of the SELECT LANGUAGE screen. Press the yellow button then press the white button to redisplay the SELECT LANGUAGE screen.

## Tuning in to Channels

You can tune in up to 60 channels to programme positions either automatically or manually.

auto tuning: A single button press allows all receivable channels to be tuned. Use if you are unfamiliar with the channel numbers of stations.

manual tuning: Use if you are familiar with the channel numbers of stations.

Choose the more appropriate way for you.

## Tuning in to Channels Automatically

There are two possibilities for auto tuning:

A. On the TV: hold down on the front of the TV for 2 seconds

or

B. On the Remote Commander: as follows

1 Press MENU .

2 Press the white button .

3 Hold down the red button for 2 seconds,

**Note:** Press the green button to cancel.

## Tuning in to Channels Manually

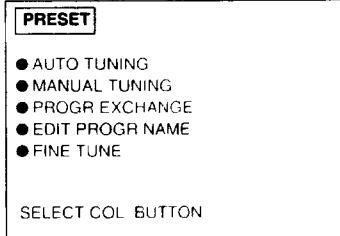
**1** Press MENU **7**.

The MENU screen appears.



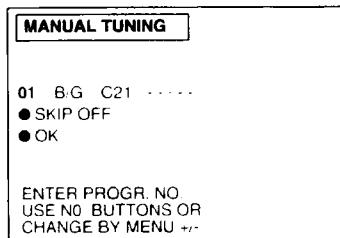
**2** Press the white button **17** to select PRESET.

The PRESET screen appears.



**3** Press the green button **17** to select MANUAL TUNING.

The MANUAL TUNING screen appears.



**4** Press the number buttons **4** or MENU+/- **9** to select a programme position.

If you use the number buttons **4**, enter a double-digit number. (e.g. for programme number 4, first press 0, then 4)

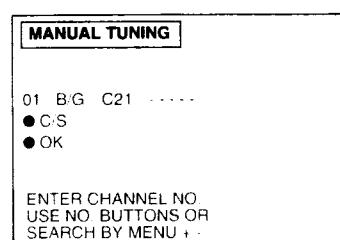
**5** Press the green button **17**.

**Note:** Use MENU +/- **9** to select TV system. You can alternatively select input sources which may be assigned to programme positions. The display changes as follows:

B/G  $\leftrightarrow$  D/K  $\leftrightarrow$  AV1  $\leftrightarrow$  RGB  $\leftrightarrow$  AV2  $\leftrightarrow$  YC2  $\leftrightarrow$  AV3  $\leftrightarrow$  YC3

**6** Press the green button **17**.

**Note:** If a video input source is selected in step 5, this is now stored. Refer to step 4 to tune other programme positions.



**7** When you have selected B/G, press the red button **17** to select C (regular channel) or S (cable channel).

**8** Press the number buttons **4** or MENU+/- **9** to select the channel number.

If you use the number buttons **4**, enter a double-digit number. (e.g. for channel 23, first press 2, then 3)

**9** Press the green button **17** to store.

**Note:** If you want to preset other channels, repeat steps 4 to 9.

**10** Press MENU **7** twice to return to the normal screen.

**Note:** You can skip unused programme positions when selecting programmes with the PROGR +/- buttons **18**. Press the red button **17** to skip in step 4. However, the skipped programmes may still be called up when you use the number buttons.

## Basic TV Operations

### Turning the TV on and off

#### Turning on

Depress  $\ominus$  **A** on the TV.

#### Turning off temporarily

Press  $\oplus$  **10** on the Remote Commander.

The TV enters standby mode and the standby indicator **B** on the front of the TV lights up.

#### Turning on again

Press  $\ominus$  **3**, PROGR+/- **18**, or one of the number buttons **4** on the Remote Commander.

#### Turning off completely

Depress  $\ominus$  **A** on the TV.

**Note:** It is recommended to use  $\ominus$  **A** to turn off the TV. This could help you save energy.

### Selecting TV Programmes

Press PROGR+/- **18** or press number buttons **4**.

#### To select a double-digit number

Press  $\ominus$  **5**, then the number buttons **4**.

### Adjusting the Volume

Press  $\triangleleft/\triangleright$  **19**.

### Muting the Sound

Press  $\ast$  **1**.

To resume normal sound, press  $\ast$  **1** again.

### Displaying the On-screen Indications

Press  $\ominus$  **14** once to display the on-screen indications.

Press again to make the indications disappear.

### Operating the TV Using the Buttons on the TV

With the buttons on the TV, you can adjust or select the functions as follows:

Press  $\triangleleft/\triangleright$  **D** to adjust the volume.

Press P+/- **C** to select programme numbers or to turn the TV on from the standby mode.

Press  $\ominus$  **F** to select the input source.

Press  $\rightarrow$  **E** to preset channels automatically.

# Advanced TV Operations

## Operating the Menu System

You can adjust picture and sound, preset channels to programme positions and utilise other convenient features by using the following menu system.

Press:	to:
<b>1</b> MENU [7]	enter the MENU screen 
<b>2</b> a colour button [17]	select an item you want to change (The selected item is marked by a triangle.) 
<b>3</b> MENU+/- [9]	change (or adjust) the contents of the item 
<b>4</b> MENU [7]	return to the MENU screen
<b>5</b> MENU [7] again	return to the normal screen

Press MENU [7] once or twice whenever you want to return to the normal screen.

**Note:** When selecting menus, the picture becomes darker. If, however, an item in the PICTURE ADJUSTMENT menu is selected, normal level of TV picture is restored to allow the best adjustment.

## Adjusting the Picture and Sound

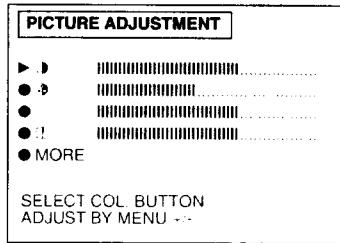
Although picture and sound are adjusted at the factory you can adjust them to suit your own taste.

- 1** Press MENU [7].  
The MENU screen appears.  

- 2** Press the red button [17] to select PICTURE or the green button [17] to select SOUND.
- 3** Press the respective colour button [17] to select an item.
- 4** Press MENU +/- [9] to adjust.
- 5** Press MENU [7] twice or wait until the menu displays disappear automatically to return to the normal screen.

## PICTURE ADJUSTMENT

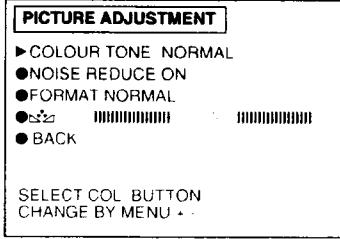
(First Page)



Press colour button	Effect
<b>Red:</b> For Picture [1]	Less —— — More
<b>Green:</b> For Colour [2]	Less —— — More
<b>Yellow:</b> For Brightness [3]	Darker —— — Brighter
<b>Blue:</b> For Sharpness [4]	Softer —— — Sharper
<b>White:</b>	Next page of PICTURE ADJUSTMENT

## PICTURE ADJUSTMENT

(Second Page)

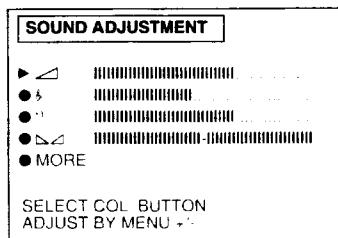


Press colour button	Effect
<b>Red:</b> For Colour Tone	Normal -> Warm (reddish colour tone) -> Cool (blueish colour tone)
<b>Green:</b> For Noise Reduce	ON: Reduces picture noise (in case of low signal level) OFF: Normal setting
<b>Yellow:</b> For Format	Normal: Normal setting 16:9 Wide screen effect
<b>Blue:</b> For Hue control [5]	Reddish —— — Greenish (only for NTSC video signals)
<b>White:</b>	Back to first page of PICTURE ADJUSTMENT

**Note:** Press  $\Rightarrow \Leftarrow$  [8] on the Remote Commander to reset to the factory preset levels for picture and sound.

## SOUND ADJUSTMENT

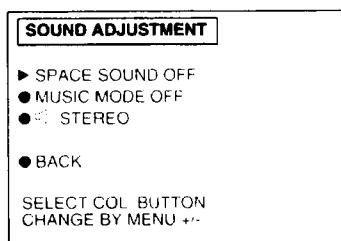
(First Page)



Press colour button	Effect
<b>Red:</b> For Volume	Less ——— More
<b>Green:</b> For Treble	Less ——— More
<b>Yellow:</b> For Bass	Less ——— More
<b>Blue:</b> For Balance	More left - more right
<b>White:</b>	Next page of SOUND ADJUSTMENT

## SOUND ADJUSTMENT

(Second Page)



Press colour button	Effect
<b>Red:</b> For Space Sound	OFF: normal sound ON: for a special acoustic sound effect
<b>Green:</b> For Music Mode	OFF: normal sounds ON: when listening to music broadcast
<b>Yellow:</b> For Stereo:	Stereo -> Mono A (left channel) -> Mono B (right channel) -> Mono
<b>White:</b>	Back to first page of SOUND ADJUSTMENT

**Note:** Press [8] on the Remote Commander to reset to the factory preset levels for picture and sound.

## Using Special Features

With your TV you can utilise special features such as Parental Lock or Sleep Timer .

**1** Press MENU

The MENU screen appears.



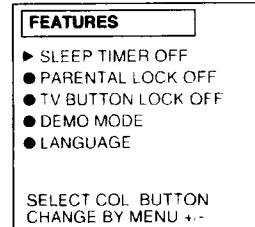
**2** Press the yellow button to select FEATURES.

**3** Press the respective colour button to select an item.

**4** Press MENU +/- to change.

**5** Press MENU twice or wait until the menu disappears automatically to return to the normal screen.

## FEATURES



Press colour button	Effect
<b>Red:</b> For Sleep Timer	OFF -> 0:30 -> 1:00 -> 1:30 -> 2:00 (hours) (Automatic switch off function)
<b>Green:</b> For Parental Lock	OFF: Normal setting ON: The TV-channel you are watching is now blocked. In this way you can prevent undesirable broadcasts from appearing on the screen.
<b>Yellow</b> For TV Button Lock	OFF: Normal setting ON: The buttons on the TV do not function anymore. (The Remote Commander still operates)
<b>Blue:</b> For Demo Mode	ON: A sequence of menu pictures is displayed. Press any button on the Remote Commander to stop the function.
<b>White:</b> For Language	The SELECT LANGUAGE screen appears.

## Advanced Presetting Functions

### Exchanging Programme Positions

You can exchange the programme positions to a preferred order (example: exchange programme 09 (channel C21) with programme 15 (channel C24)).

**1** Press MENU [7].

The MENU screen appears.

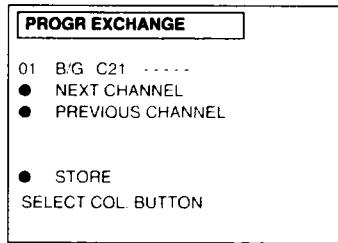


**2** Press the white button [17].

The PRESET screen appears.

**3** Press the yellow button [17].

The PROGR EXCHANGE screen appears.



**4** Press the white button [17] repeatedly until the desired programme number (09) appears.

**5** Press the red or the green button [17] repeatedly until the desired channel number (C24) appears.

**6** Press the white button [17] to store.

Now the exchange has been completed. Channel C24 is tuned in to programme 09 and channel C21 is tuned in to programme 15.

**7** Press MENU [7] twice to return to the normal screen.

### Editing Programme Names

You can edit the programme names up to five letters.

**1** Press MENU [7].

The MENU screen appears.

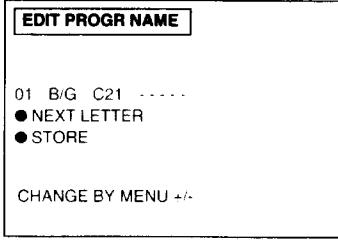


**2** Press the white button [17].

The PRESET screen appears.

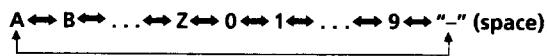
**3** Press the blue button [17].

The EDIT PROGR NAME screen appears.  
The first character flashes.



**4** Press MENU+/- [9] to edit the first letter.

The first letter changes as follows;



**5** Press the red button [17] to move to the next letter.

**6** Repeat steps 4 to 5, until the fifth letter is chosen.

**7** Press the green button [17].

The programme name is stored, and the normal screen appears. To edit another programme name, repeat steps 1 to 7.

### Fine Tuning

You can adjust the receiving condition by the FINE TUNE function.

**1** Press MENU [7].

The MENU screen appears.

**2** Press the white button [17].

The PRESET screen appears.

**3** Press the white button [17] again.

The FINE TUNE screen appears.



**4** Press MENU+/- [9] to adjust the receiving condition.

**5** Press the red button [17] to store the adjustment, or press the green button [17] not to store.

Then the normal screen appears. If you have pressed the green button, the fine tuned condition is cancelled once you choose another programme.

### Tuning in to a Channel Temporarily

You can tune in to a channel temporarily, even when it has not been preset.

**1** Press C [16] on the Remote Commander. For cable channels, press C [16] twice.

The indicator "C" ("S" for cable channels) appears on the screen.

**2** Enter a double-digit channel number using the number buttons (e.g. for channel 23, first press 2, then 3).

The channel appears.

However, the channel is not stored.

## Teletext Operation

TV stations broadcast teletext programmes via the TV channels. For basic operation of teletext, use the simple side of the Remote Commander. For the advanced features of teletext, use the buttons indicated in green on the full function side of the Remote Commander.

### Basic Teletext Operation

#### Switching Teletext on and off

**1** Select the channel which carries the teletext service you wish to view.

**2** Press [11] to display Teletext. If no teletext signal is broadcast, the indication P100 is displayed on a black screen.



**3** Input three digits for the page number using the number buttons [4].

The numbers are displayed on the screen and the requested page appears in a few seconds.

**Note:** If you make a mistake, type in any three digits, then re-enter the correct page number.

**4** Press [3] to return to the TV mode.

**Note:** To change the teletext channels. First press [3] to return to the TV mode, then repeat steps 1 to 3.

**Note:** If the signal of a TV channel is weak, teletext errors may occur.

### Advanced Teletext Operation

#### Using Fastext

With Fastext you can access pages with one button press. When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons [6] on the Remote Commander.

Press the corresponding colour button [6] on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed in a few seconds.

#### Requesting the Index page

Press [17]. The Index page appears.

#### Accessing the next or preceding page

Press (PAGE +) or (PAGE -) [18]. The next or the preceding page appears on the screen.

#### Superimposing the teletext display on the TV picture

Press [11] once if you are in text mode or press [11] twice if in TV mode.

To return to the normal teletext display press [11] again.



#### Preventing a teletext page from being updated or changed

Press (HOLD) [2]. The HOLD symbol () appears on the screen and the selected subpage is held until you press [11] to cancel.

#### Enlarging the teletext display

Press [13] once to enlarge the upper half. Press twice to enlarge the lower half. Press again to restore the normal display.



#### Revealing concealed information (e.g. answers to a quiz)

Press (REVEAL) [14]. The information is revealed. Press [14] again to conceal the information.

#### Watching TV while waiting for a requested page to be displayed

**1** Request a new teletext page.

**2** Press (TEXT CL) [12].

The TV programme is displayed and the symbol is displayed at the top of the page.

**Note:** When the requested page is available the page number is displayed at the top of the screen.

**3** Press [11] to view the page.

**Note:** To cancel the request

Display the teletext page, then press [11]. The request is now cancelled. Press [3] to resume TV mode.

#### Using the Favourite Page system

You can store up to four of your favourite teletext pages per programme with the help of the Favourite page system. In this way you have quick access to the pages you watch frequently.

#### Storing the Favourite Pages

**1** Select the page you would like to store using the number buttons [4].

**2** Press [15] twice.

The colour prompts at the bottom of the screen flash.

**3** Press any of the colour buttons [6] on the Remote Commander to store the selected page.

The page is now stored on this button.

Repeat steps 1 to 3 for the other 3 pages available.

#### Displaying the Favourite pages

**1** Press [15].

**2** Press the colour button [6] corresponding to the colour prompt onto which the desired page is stored.

The page is requested. (It may take a few seconds to be received).

**Note:** Step 1 must be taken before every favourite page selection, otherwise the normal Fastext facility operates.

#### Using the Time Function in the TV mode

Press [12] to request the time. Press again to cancel the request.

**Note:** This function is available only when teletext is broadcast.

## Connecting Other Equipment

You can connect optional audio/video equipment to this TV such as VCRs, video disc players, cameras or stereo systems.

Connector	Acceptable input signal	Available output signal
AV1 M (AV1/RGB)	Audio/video and RGB signal	Audio/video signal from TV Tuner
AV2 L (AV2) (YC2)	Audio/video and S video signal	Audio/video signal from selected source
AV3 G H (AV3)	Audio/video signal and	No outputs
YC3 G I (YC3)	Audio/S video signal	

To watch a video input picture, press 2 until the desired video input appears.

To return to the normal TV picture, press 2 repeatedly or press 3.

**Note:** If you have a decoder, connect it to AV1 M.

### Connecting a VCR Using the TV Aerial Terminal

Connect the aerial output of the VCR to the aerial terminal K of the TV. It is recommended to tune in the VCR signal to programme number "0". For details, see "Tuning in to Channels Manually" on page 18.

**Note:** S video input (Y/C input) I L

Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals.

Separating the Y and C signals prevents them from interfering with each other and therefore improves the picture quality (especially luminance). This TV is equipped with 2 video input terminals through which these signals can be input directly.

## Checking and Selecting the Input and Output Sources Using the Menu

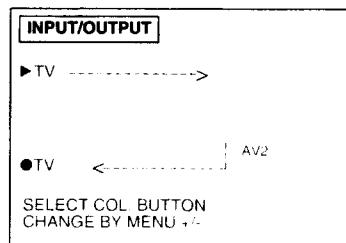
You can display a menu screen to see which input and output source are selected. You can also change the selection using this menu.

### Checking the Input and Output Sources

1 Press MENU 7.

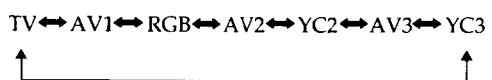
The MENU screen appears

2 Press the blue button 17 to select INPUT/OUTPUT. The INPUT/OUTPUT screen appears.



## Selecting an Input Signal

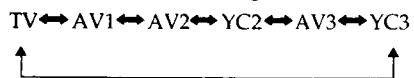
Press the red button 17 to select INPUT. Press MENU +/- 9 to select the desired input source. You can select among the following sources:



## Selecting an Output Signal

The 2 / 2 connector L outputs the source input from the other connectors. Press the green button 17 to select OUTPUT. Press MENU +/- 9 to select the desired output source.

You can select among the following sources:



**Note:** Press MENU 7 twice or wait until the menu displays disappear automatically to return to the normal screen.

## Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VCRs or video disc players.

### Tuning the Remote Commander to the equipment

1 Set the VTR 1/2/3 MDP selector 20 according to the equipment you want to control:

VTR 1: Beta or VCR

VTR 2: 8mm VCR

VTR 3: VHS VCR

MDP: Video Disc Player

2 Use the buttons 21 to operate the additional equipment.

**Note:** If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

**Note:** If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.

**Note:** When you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

## Using Headphones

You can utilise headphones. Connect them to the headphone jack J, then the sound from the speakers goes off.

**Note:** You can't control the sound adjustment except for volume.

## For your information

### Troubleshooting

Here are some simple solutions to problems which may affect the picture and sound.

#### No picture (screen is dark), no sound

- Plug the TV in.
- Press **① A** on the TV. (If the standby indicator **B** is lit, press **□ 3** or any number button **4** on the Remote Commander.)
- Check if the selected video source is on.
- Turn the TV off for three or four seconds and then turn it on again using **① A**.

#### Poor or no picture (screen is dark), but good sound

- Press MENU **7** to enter the MENU screen, and press the red button **17**, then adjust **①** and **②**.

#### Good picture but no sound

- Press **▲ + 19**.
- If **\*** is displayed on the screen, press **\* 1**.

#### No colour for colour programmes

- Press MENU **7** to enter the MENU screen, and press the red button **17**, then adjust **①**.

#### Remote Commander does not function

- Replace the battery.

If you continue to have problems, have your TV serviced by qualified personnel. Never open the casing yourself.

### Specifications

<b>Television system</b>	B/G/H, D/K
<b>Colour system</b>	PAL, SECAM NTSC 3.58 (video input only) NTSC 4.43 (video input only)
<b>Channel coverage</b>	See "Receivable Channels and Channel Displays"
<b>Picture tube</b>	KV-X2501: Hi-Black Trinitron Approx. 63cm (25 inches) (Approx. 60cm picture measured diagonally) 110° deflection KV-X2901: Hi-Black Trinitron Approx. 72cm (29 inches) (Approx. 68cm picture measured diagonally) 110° deflection
<b>Terminals</b> <b>Rear</b>	<b>①</b> 21-pin Euro connector (CENELEC standard) - inputs for audio and video - inputs for RGB - outputs of TV video and audio <b>②/③</b> 21-pin Euro connector - inputs for audio and video - inputs for S video - outputs for audio and video (selectable)
<b>Front</b>	<b>④</b> 3 Video input-phono jack <b>⑤</b> 3 Audio input-phono jacks <b>⑥</b> 3 S video input-4-pin DIN <b>⑦</b> Headphone jack: stereo mini jack
<b>Sound output</b>	2x20W music power

**Power consumption** KV-X2501: 99W  
KV-X2901: 108W

**Dimension (WxHxD)** KV-X2501  
Approx. 575x500x487mm  
KV-X2901  
Approx. 656x566x518mm

**Weight** KV-X2501: Approx 33kg  
KV-X2901: Approx 45kg

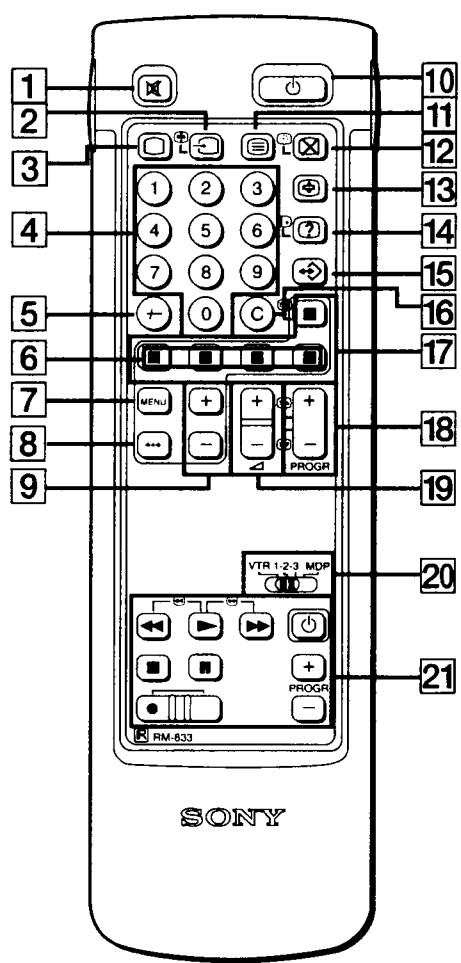
**Supplied accessories** Remote Commander RM-833,  
Battery R6

**Other features** Fastext/Toptext

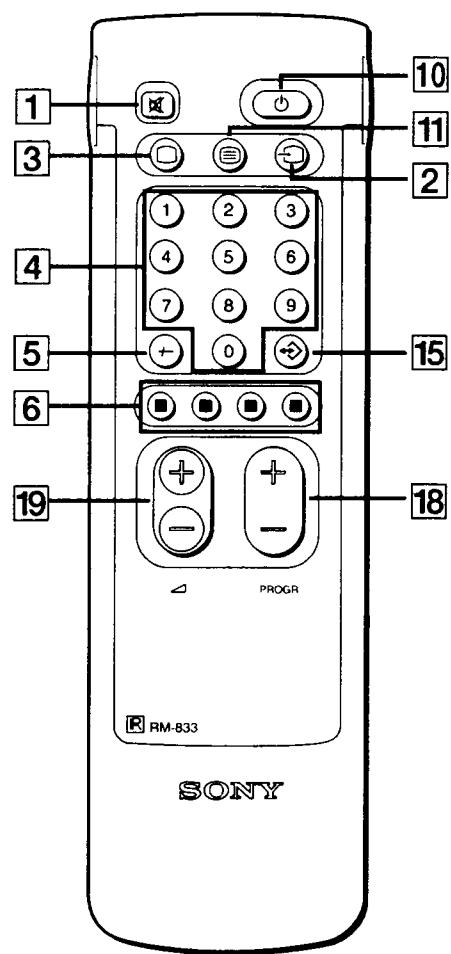
#### Receivable Channels and Channel Displays

TV System	Receivable Channels	Channel Displays
B/G/H	E2, E3 ... E12 E21, E22 ... E69	C02, C03 ... C12 C21, C22 ... C69
Cable TV(1)	S1, S2 ... S41	S01, S02 ... S41
Cable TV(2)	S01, S02 ... S05 M1, M2 ... M10 U1, U2 ... U10	S42, S43 ... S46 S01, S02 ... S10 S11, S12 ... S20
ITALIA	A, B ... H H1, H2	C13, C14 ... C20 C11, C12
D/K	R01, R02 ... R12 R21, R22 ... R69	C01, C02 ... C12 C21, C22 ... C69

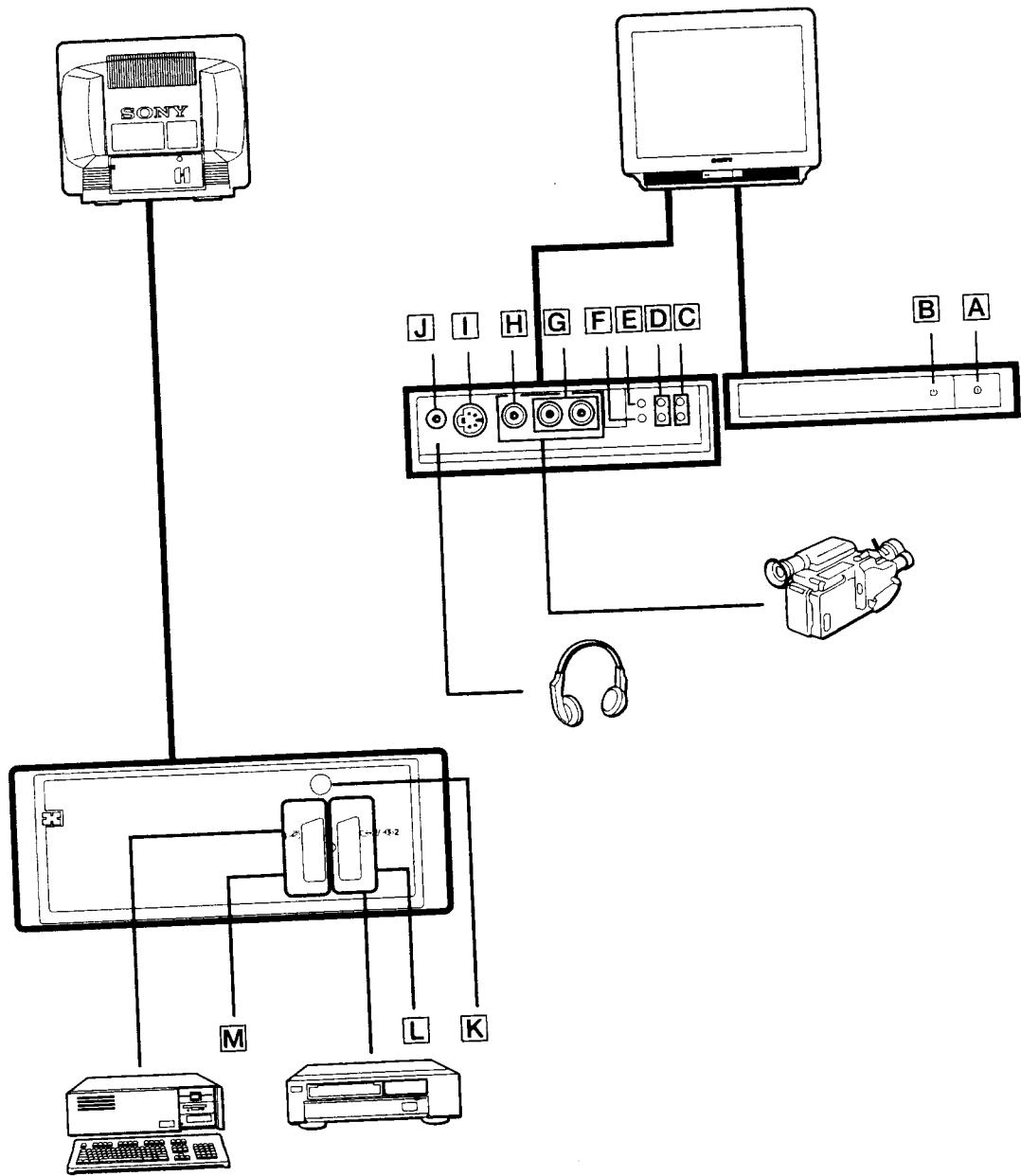
Design and specifications are subject to change without notice.



Full-Function Side

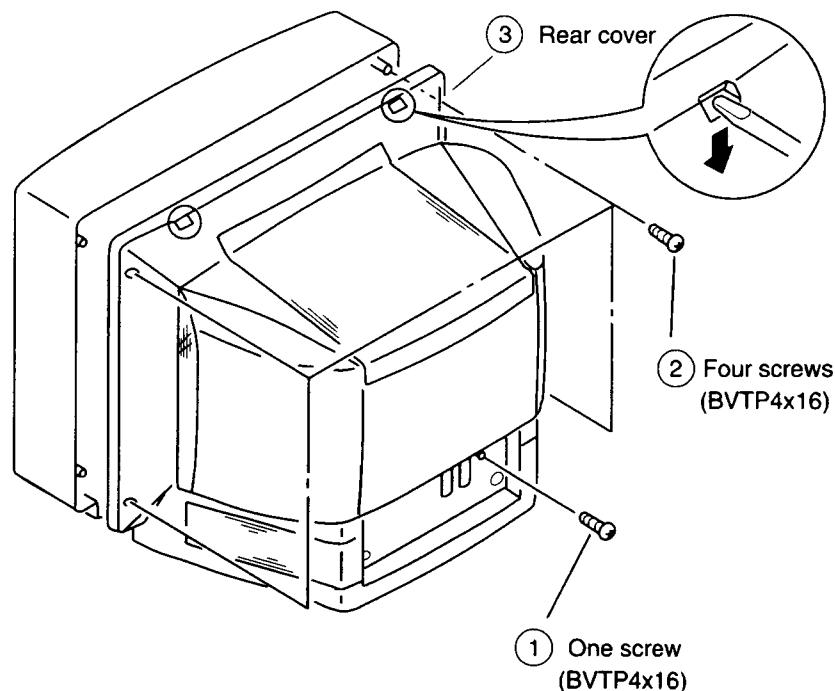


Simple Side

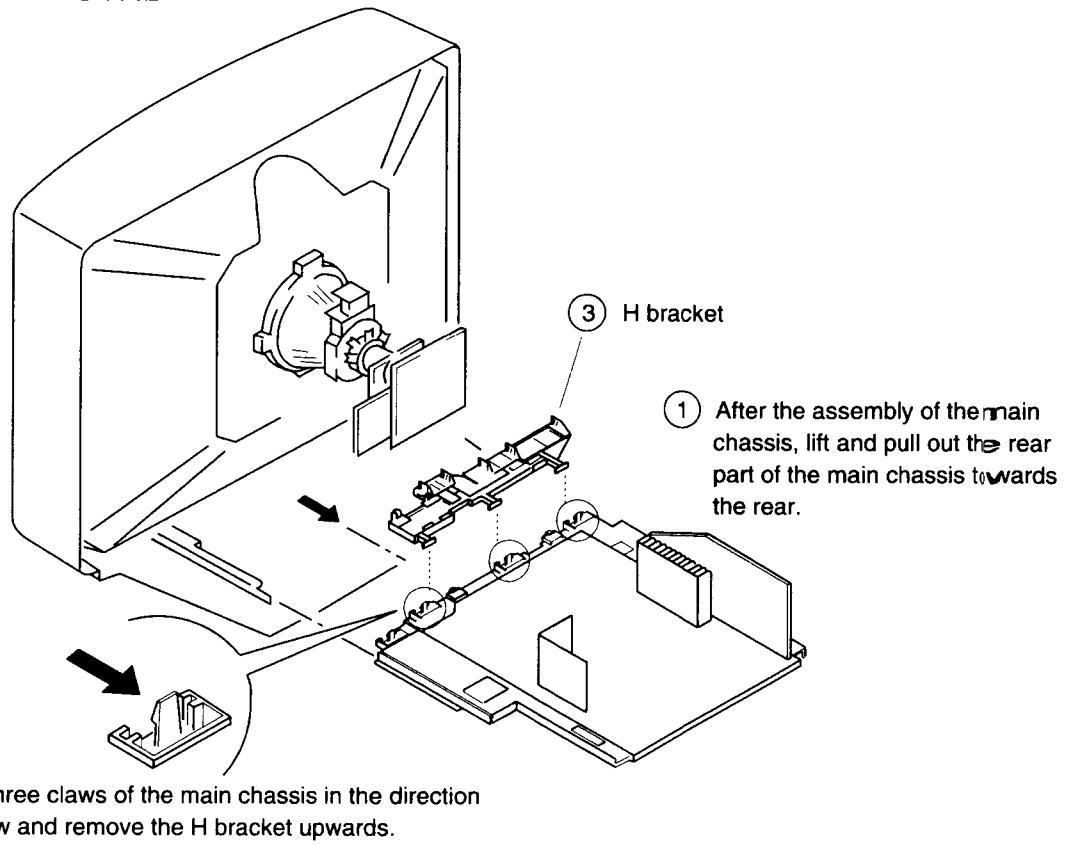


## SECTION 2 DISASSEMBLY

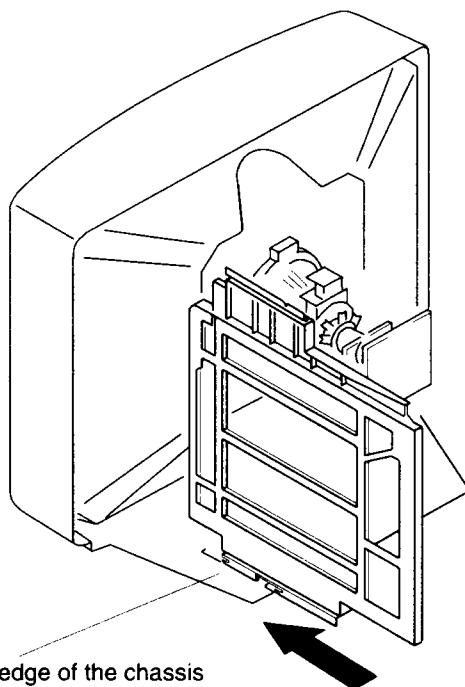
### 2-1. REAR COVER REMOVAL



### 2-2. CHASSIS ASSY REMOVAL



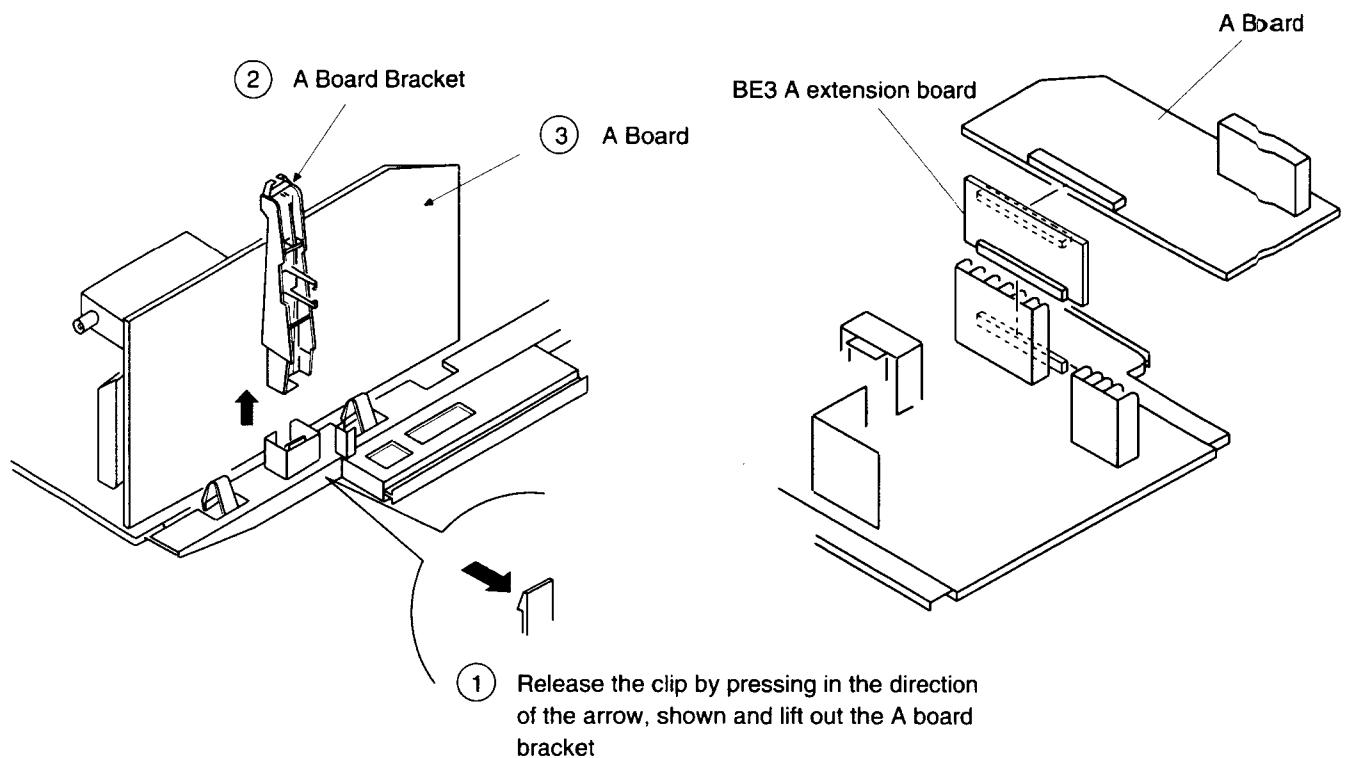
## 2-3. SERVICE POSITION



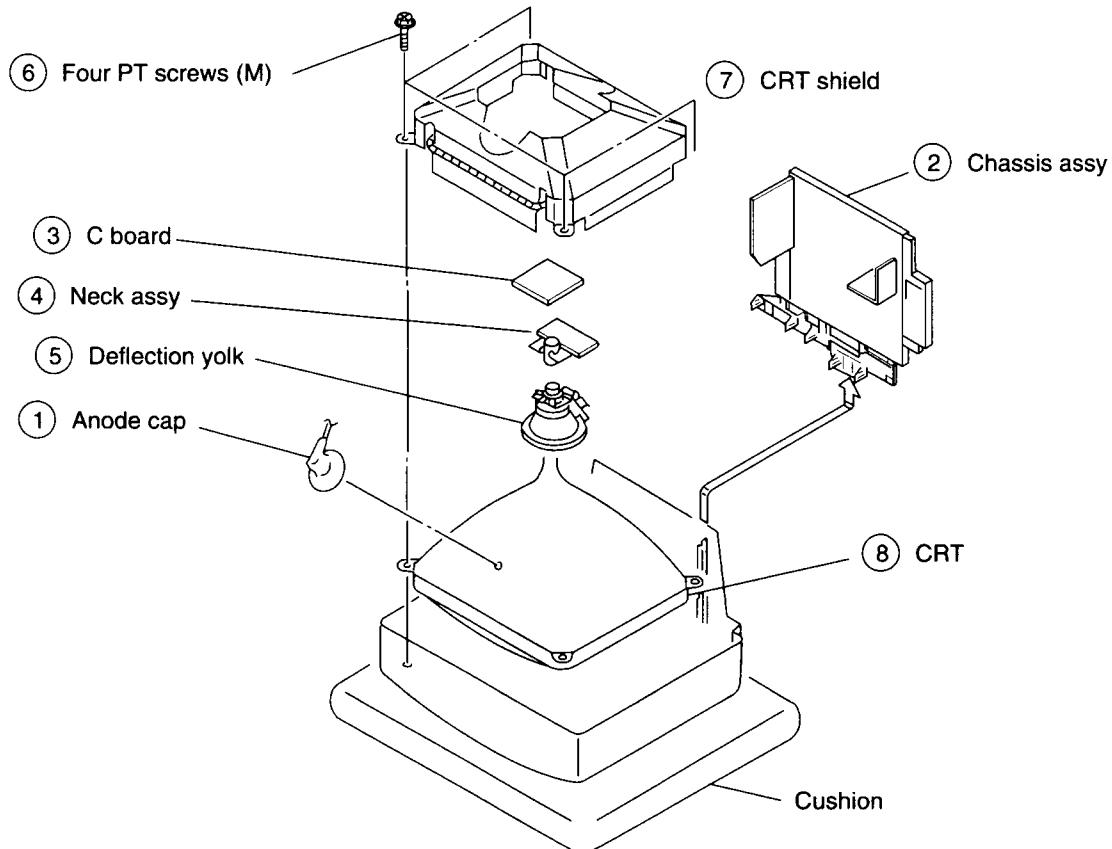
Locate the 2 slots on the edge of the chassis bracket in the locating holes and slide in the direction of the arrow

## 2-4. A BOARD REMOVAL

## 2-5. EXTENSION BOARD



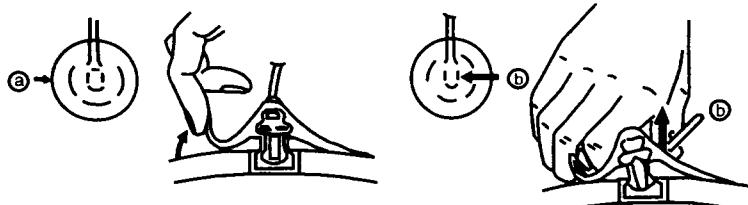
## 2-6. PICTURE TUBE REMOVAL



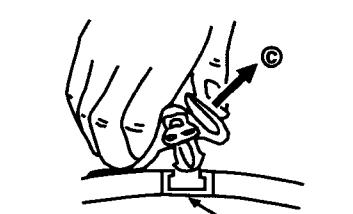
### • REMOVAL OF ANODE-CAP

**Note:** Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

#### \* REMOVING PROCEDURES.

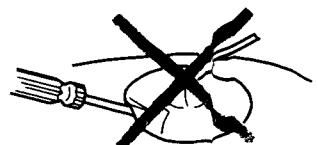
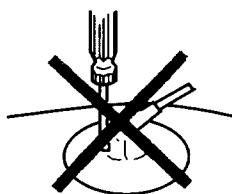


- ① Turn up one side of the rubber cap in the direction indicated by the arrow (a)
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow (b)
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow (c)



#### • HOW TO HANDLE AN ANODE-CAP

- ① Don't damage the surface of anode-cap with sharp shaped material !
- ② Don't press the rubber hardly not to hurt inside of anode-caps !  
A metal fitting called as shatter-hook terminal is built into the rubber.
- ③ Don't turn the foot of rubber over hardly !  
The shatter-hook terminal will stick out or damage the rubber.



## SECTION 3

### SET - UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to these settings :
  - Contrast ..... 80% (or remote control normal)
  - Brightness ..... 50%

- Carry out the following adjustments in this order :
1. Beam landing
  2. Convergence
  3. Focus
  4. White balance

**Note:** Testing equipment required.

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

#### Preparation:

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

#### 3-1. BEAM LANDING

1. Input the white signal with the pattern generator.  
CONTRAST } normal  
BRIGHTNESS }
2. Position neck assy as shown in Fig.3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke forward and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig. 3-1 - 3-3)
5. Move the deflection yoke forward and adjust so that the entire screen becomes red. (See Fig. 3-1)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig. 3-4)

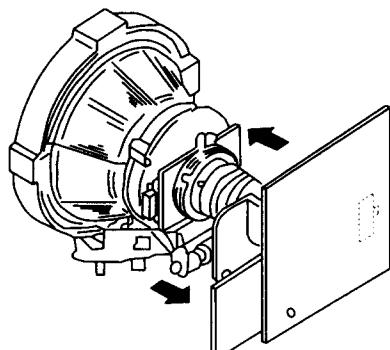


Fig. 3-1

Fig. 3-2

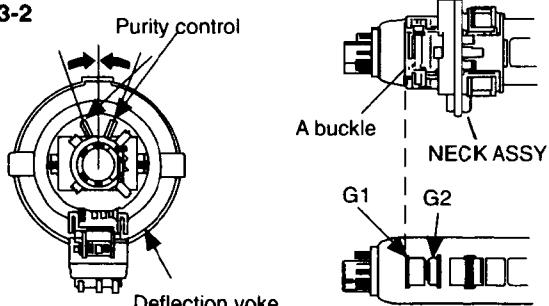


Fig. 3-3

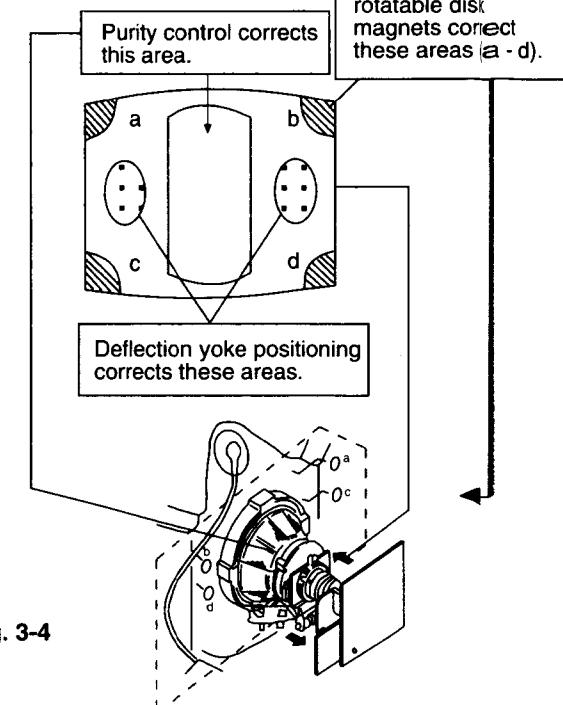
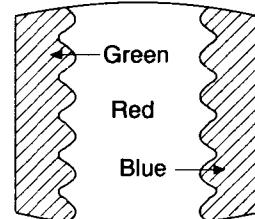


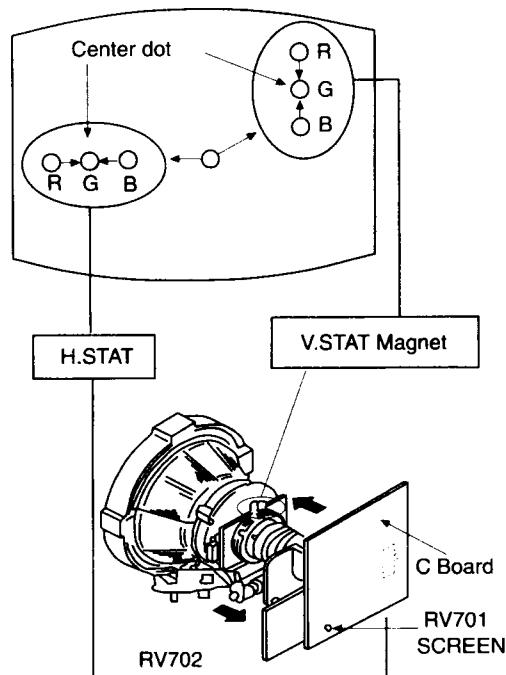
Fig. 3-4

### 3-2. CONVERGENCE

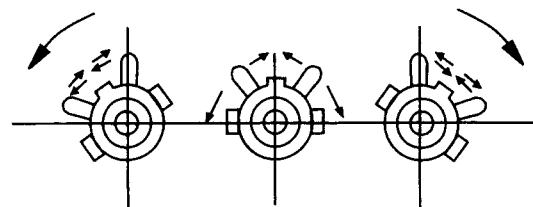
#### Preparation:

- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide a dot pattern.

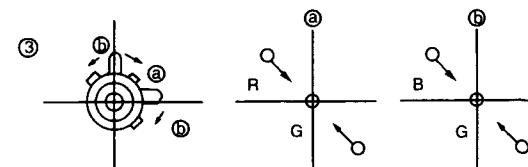
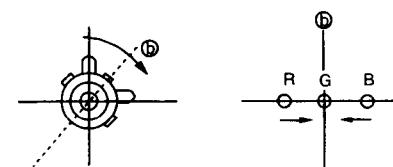
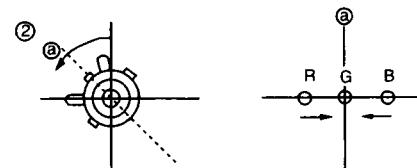
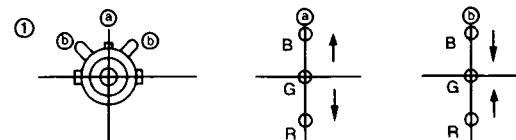
#### (1) Horizontal and vertical static convergence



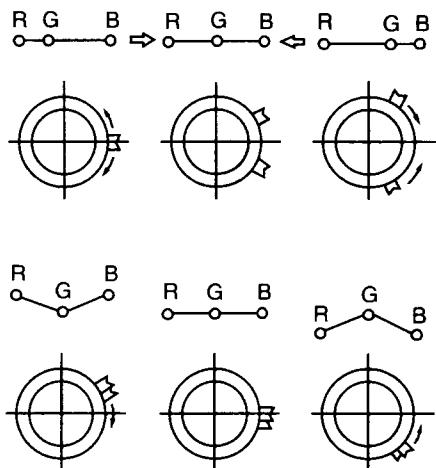
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



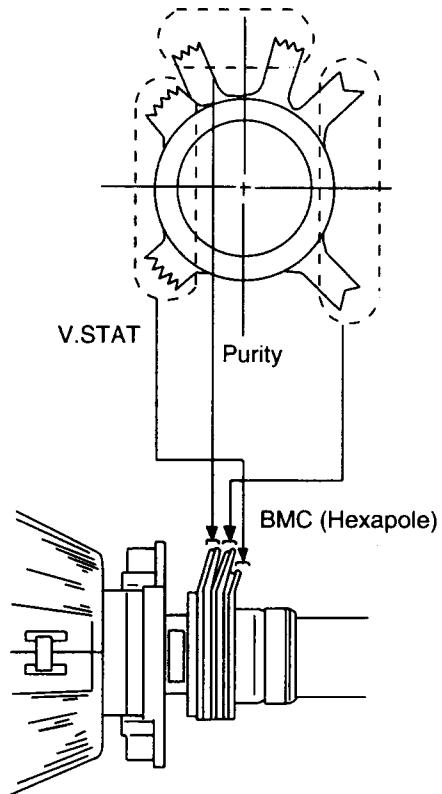
4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the red, green, and blue points move as shown below.



- Operation of BMC (Hexapole) Magnet



- The respective dot position resulting from moving each magnet interact, so be sure to perform adjustment while tracking.  
Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of the screen (by moving the dots in the horizontal direction).

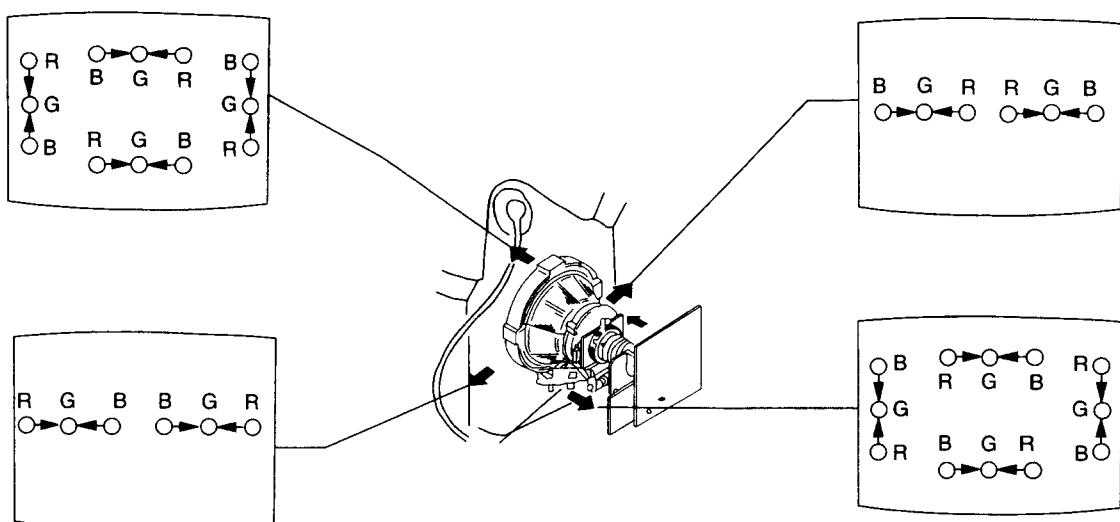


## (2) Dynamic convergence adjustment.

### Preparation:

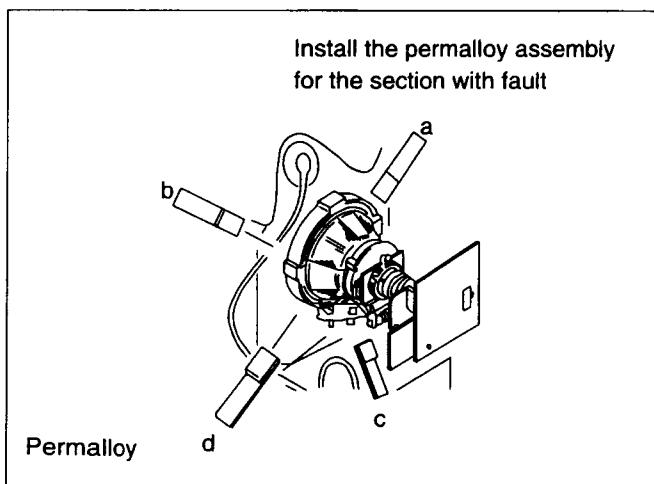
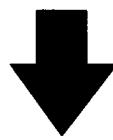
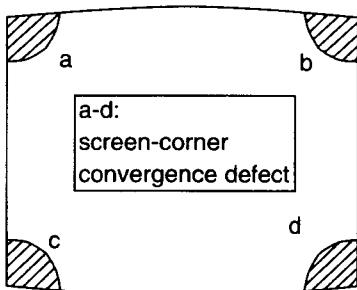
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.
- I. Slightly loosen the deflection yoke screws.

- Remove the deflection yoke spacer.
- Move the deflection yoke as shown in the figure below and optimize the convergence.
- Tighten the deflection yoke screws.
- Re-install the deflection yoke spacer.



**(4) Screen corner convergence.**

If you are unable to adjust the corner convergence properly, correct them with the use of permalloy assemblies.

**3-4. WHITE BALANCE****Screen G2 Setting**

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

**White balance adjustment**

1. Receive an all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" on how to enter service mode.)
3. Select TDA8366 1 on menu.

DEVICE : TDA8366 1

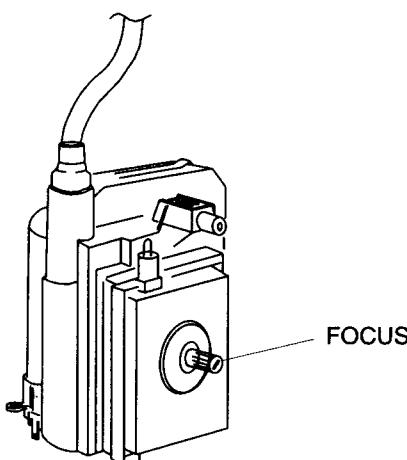
STAT : 12  
 NEXT  
 PREVIOUS  
 OK

USE COLOUR KEYS  
 SONY TEST MENU.

4. Press the White button on the Remote Commander to enter into the device Menu.
5. Press the Red button 10 times "Next" "Next" "Next" to select HWB RED, adjust to 040.
6. Press the Red button to select HWB GREEN, adjust with the + and - menu buttons so that the white balance becomes optimum.
7. Press the Red button to select HWB BLUE, adjust with the + and - menu buttons so that the white balance becomes optimum.
8. Press the TV button twice on the Remote Commander to store the data and return to TV operation.

**3-3. Focus**

Adjust the focus to optimize the screen.



## SECTION 4

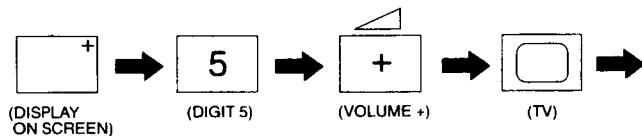
### CIRCUIT ADJUSTMENTS

#### 4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-833.

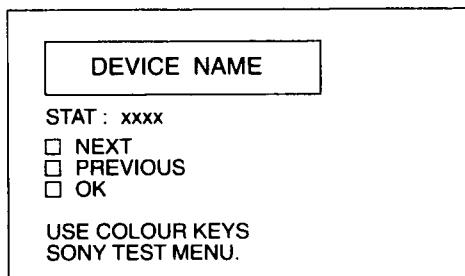
##### **HOW TO ENTER INTO SERVICE MODE**

1. Turn on the main power switch of the set and enter into standby mode.
2. Press the following sequence of buttons on the Remote Commander.

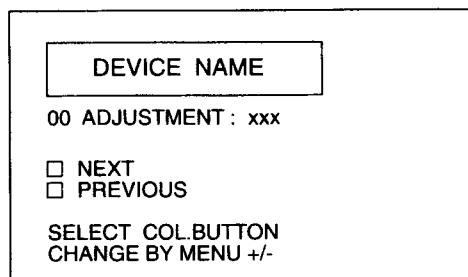


"TT" will appear in the top right corner of the screen. Other status information will also be displayed.

3. Press the MENU button on the Remote Commander to obtain the menu on the screen.



4. Press the Red (Next) and Green (Previous) buttons to select the device corresponding to the adjustment item from the table. Then press the White button (OK).



5. Press the Red (Next) or Green (previous) buttons to select the adjustment item. Then press the and buttons to change the data to comply with each standard.
6. Turn off the power to quit the service mode when adjustments are completed.

Initial Conditions for setup of TDA8366, TDA6612 and SAA7283. ( Stereo Models Only )

TDA8366 1	INIT VALUE	TDA8366 2	INIT VALUE
Hue	31	Interlace	00
H Shift	Adj	Sync Mode	00
H Size	Adj	Col Dec	00
Pin Amp	Adj	Vert Div	00
Corn Pin	Adj	Vid ID	00
Tilt	Adj	EHT Track	01
V.Linear	Adj	En V Grd	00
V.Size	Adj	Serv Blk	00
S.Corr	Adj	OVP Mode	00
V.Cent	Adj	Aspect R	00
HWB Red	Adj	Start Freq	00
HWB Green	Adj	Y/C Input	00
HWB Blue	Adj	PAL/NTSC	00
Peaking	8	Xtal PLL	00
Bright	32	Y Delay	07
Colour	32	RGB Blk	00
Picture	37	Noise Cor	00
AGC Set	00	Fast Blk	01
Srce Sel 1	00	AFC Wind	00
Srce Sel 2	00	IF Sensy	00
Time Con	03	Mod Std	00
Xtal Ind	03	Vid Mute	01
FF Freq	02		

TDA6612	INIT VALUE	TDA6612	INIT VALUE
MPX Per	00	Mute 2	01
Quasi St	00	C1/2LS	00
Bass Exp	00	C1/2KH	00
H Pulse	00	Mono	01
Matrix St	00	Scart	00
Bypass	00	Scart D	00
Vol L Sp	07	AM	00
Vol R Sp	07	SAA7283	INIT VALUE
Vol HP	00	Mon M1/M2	01
Pll Sync	00	DM Select	01
Mute 3	01	SSWIT 123	07
Treble	08	Port 2	00
Bass	09	Mute Def	00
X Talk Adj	Adj	AMDIS	00
Mute 1	00	E Max	80
		E Min	01

## 4-2. TEST MODE 2 :

Is available by pressing Test button twice, OSD 'TT' appears. The functions described below are available by pressing the two numbers. To release the Test Mode 2, press 0 twice, or switch the TV into Stand-by Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Ageing Condition (Volume min., Picture max., Brightness max.)
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	"Menu" Flag request
10	Tenth entry is deleted
11	dummy
12	dummy
13	dummy
14	Forced AV 16:9 detection on/off
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM.
17	Preset Label for AV Sources
18	RGB Priority on/off
19	Clear all preset labels
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24	Set destination = U RGB Priority = Off
25	Set destination = D RGB Priority = Off
26	Set destination = B RGB Priority = On
27	Set destination = K RGB Priority = Off
28	Set destination = L RGB Priority = Off
29	Set destination = E RGB Priority = Off

30	Tenth entry is deleted
31	Set Destination = A RGB Priority = On
32	dummy
33	Auto AGC
34	N/S Pin Adjust
35	Manual AGC Adjust
36	dummy
37	dummy
38	dummy
39	dummy
40	Tenth entry is deleted
41	Re-initialise NVM
42	Production use only
43	Initialise Geom Settings
44	Initialise all favorite pages = 100
45	Channel locks = off
46	IR Channel Presetting Mode The channel presetting can be done by a Special IR Transmitter ( Ver 2 and above software only)
47	dummy
48	Set NVM testbyte to 44h
49	Erase the NVM Testbyte (this byte detects already stored NVM's) After selecting this function, switch TV Off and On -> the NVM will be preset by µ-Controller.

In Test Mode the Menu display is switchable by the Speaker-Off button.

**Note :** For Test Modes 41 - 49 it is necessary to ensure that the TV is set to Prog 59.

**SUB BRIGHTNESS ADJUSTMENT**

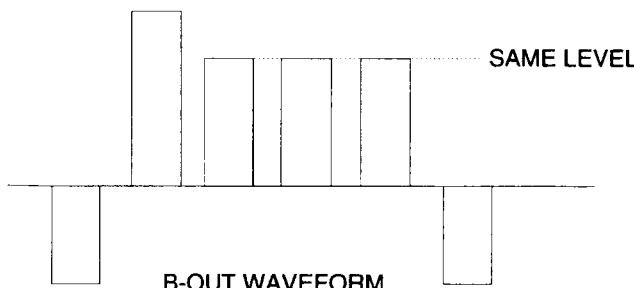
1. Input a Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of grey scale and CUT-OFF 20-IRE are only slightly visible on screen.

**SUB CONTRAST ADJUSTMENT**

1. Input a video that contains a small 100% area on a Black Background.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Connect oscilloscope to pin (1) of CN703 (R OUT) and adjust HWB Red data of TDA8366 1 to obtain 2.3Vp-p.

**SUB COLOR ADJUSTMENT**

1. Input a PAL color bar signal.
2. Connect an oscilloscope to pin (3) of CN703 (B OUT) on the C board.
3. Enter into service mode and press 22.
4. Adjust data so that the right sides of the waveform are set to the same level.

**STEREO SEPARATION ADJUSTMENT**

1. Input a 1KHz stereo signal to the L-ch and a 400Hz stereo signal to the R-ch.
2. Enter into service mode and select the "Test Menu" to be TDA6612.
3. Select the Stereo Xtalk Adjustment Menu, by using the Red (Next) and Green (Previous) buttons.
4. Monitor the Scart 1 L-channel output and adjust the data so that the R-channel sound is not detected in the L-channel.

**I.F. COIL ADJUSTMENT (T101) - B/G, D/K, I AND L STANDARD FOR CONTINENTAL MODELS.**

1. Apply a 38.9MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for negative modulation.
3. Measure the voltage at the AFT test point and adjust (T101) to obtain 2.4V +/- 0.2V.

**I.F. COIL ADJUSTMENT (T101) - I, STANDARD FOR U.K. MODELS.**

1. Apply a 39.5MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for negative modulation.
3. Measure the voltage at the AFT test point and adjust (T101) to obtain 2.4V +/- 0.2V.

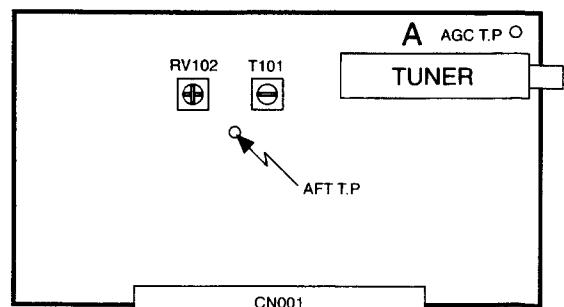
**L, BAND 1 ADJUSTMENT (RV102) - L, STANDARD FOR FRENCH MODELS.**

1. Apply a 33.95MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for positive modulation and system L band 1.
3. Measure the voltage at the AFT test point and adjust (RV102) to obtain 2.4V +/- 0.2V.

**Note :** Only adjust RV102 after T101 has been correctly adjusted.

**AGC ADJUSTMENT**

1. Receive an off-air signal.
2. Enter the service mode, ("Test" "Test") and 35.
3. Adjust the data so that there is no snow or cross-modulation visible on the screen.
4. Change the receiving off-air channel, and confirm the above status.



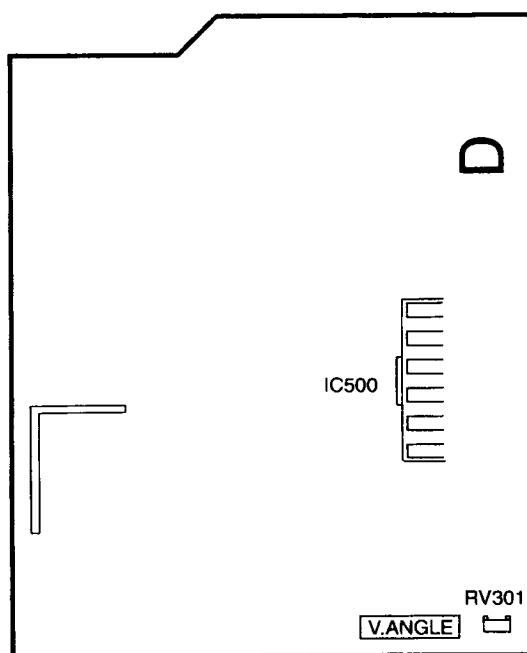
- A Board component side -

**DEFLECTION SYSTEM ADJUSTMENT**

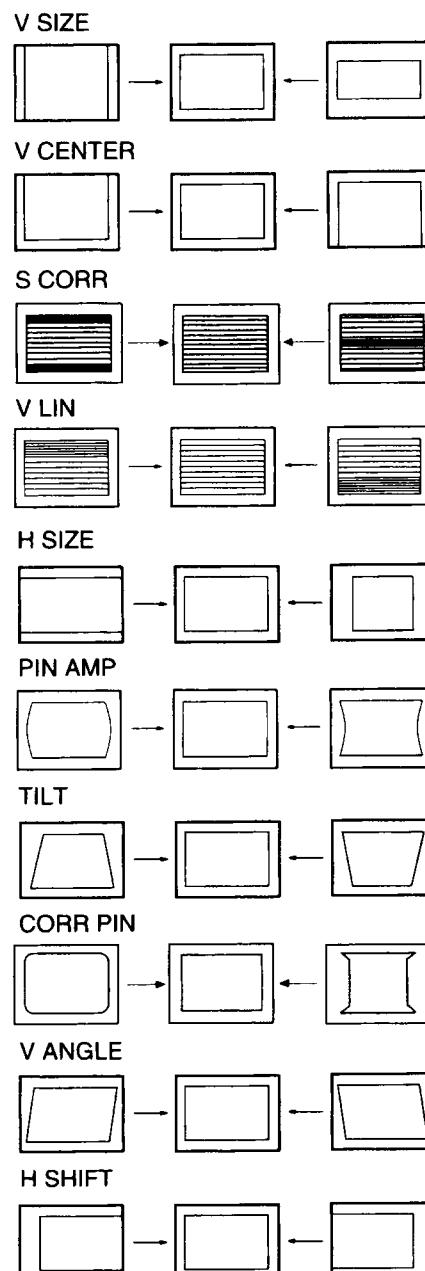
1. Enter into service mode.
2. Select and adjust each item in order to obtain the optimum image.

Item No	Adjustment item.	Data Amount
03	H SHIFT	ADJ.
04	H SIZE	ADJ.
05	PIN AMP	ADJ.
06	CORR PIN	ADJ.
07	TILT	ADJ.
08	V LINEAR	ADJ.
09	V SIZE	ADJ.
0A	S CORR	ADJ.
0B	V CENTER	ADJ.

Note : V ANGLE is adjusted by a Variable Resistor on the 'D' Board (RV301)



- D Board Component Side -



### 4-3. BE3 SELF DIAGNOSTIC SOFTWARE

The identification of errors within the BE-3 chassis is triggered in 1 of 2 ways :- 1: Bus busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the led (Series of flashes which must be counted) See Table 1., on fatal errors are reported with this method.

If a fatal error is found the set will simply stay in whichever state it was when the error occurred, but if a non fatal error occurs the set will try to continue operation.

**Table 1**

Device	LED Error Count	Fatal Error
NVM	2 .. 9	✓
Teletext	10	
Jungle	11	✓
Video_sw	12	
Tuner	13	✓
Nicam	14	
Audio_cont	15	✓

Flash Timing Example : e.g. error number 3.

Stby LED

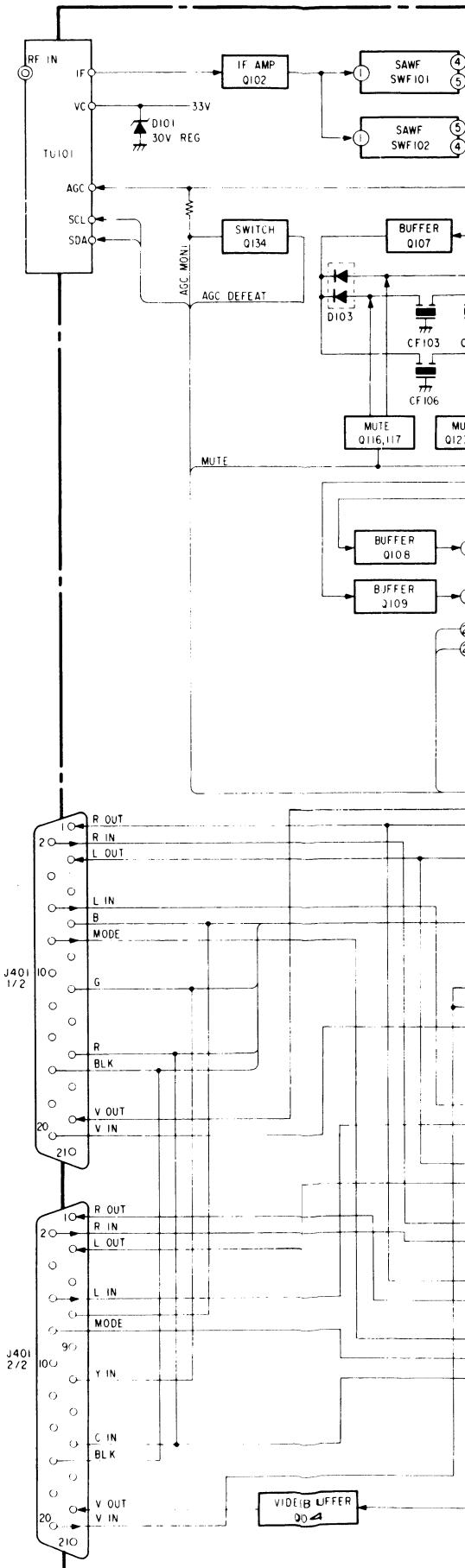
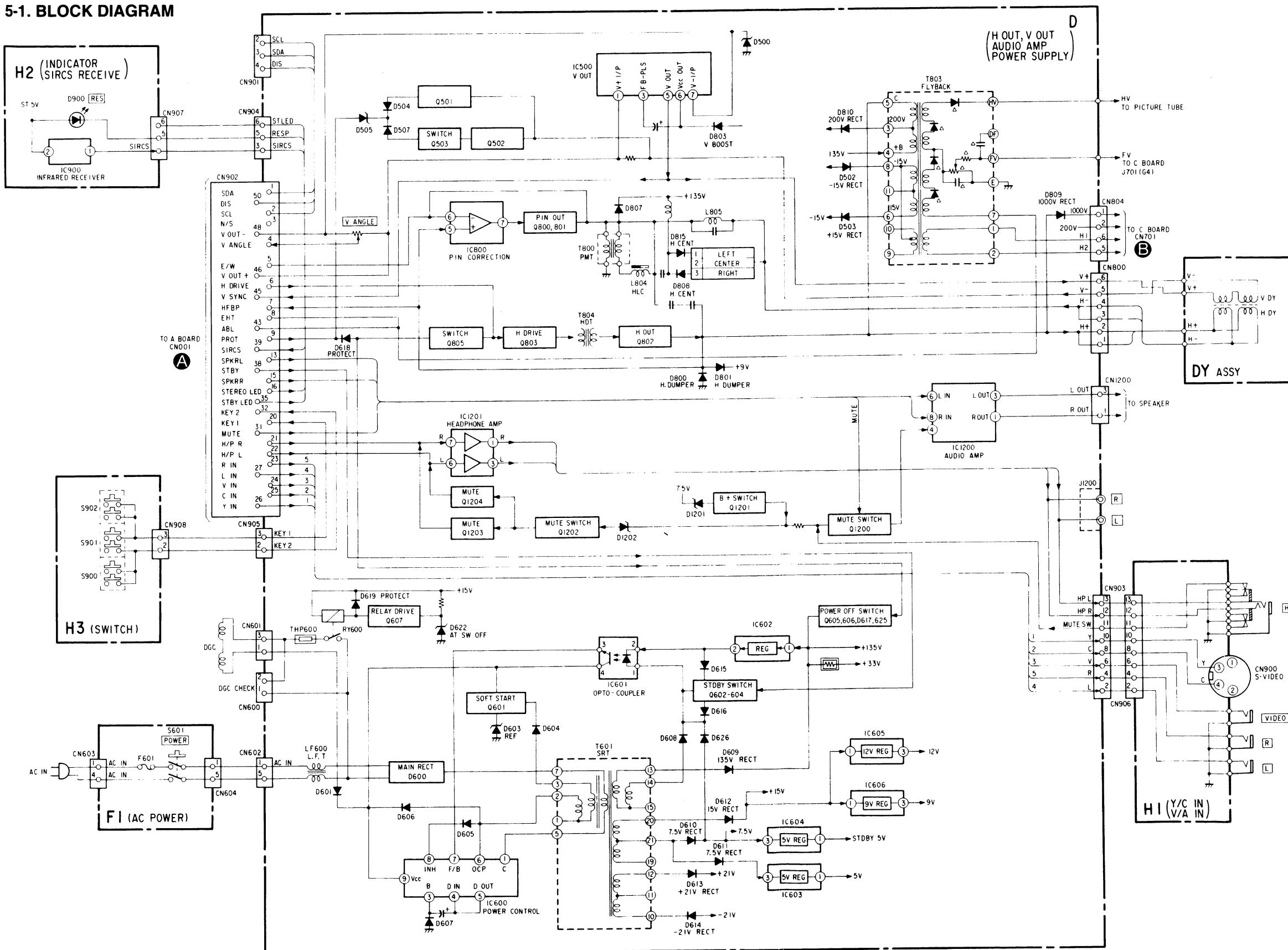


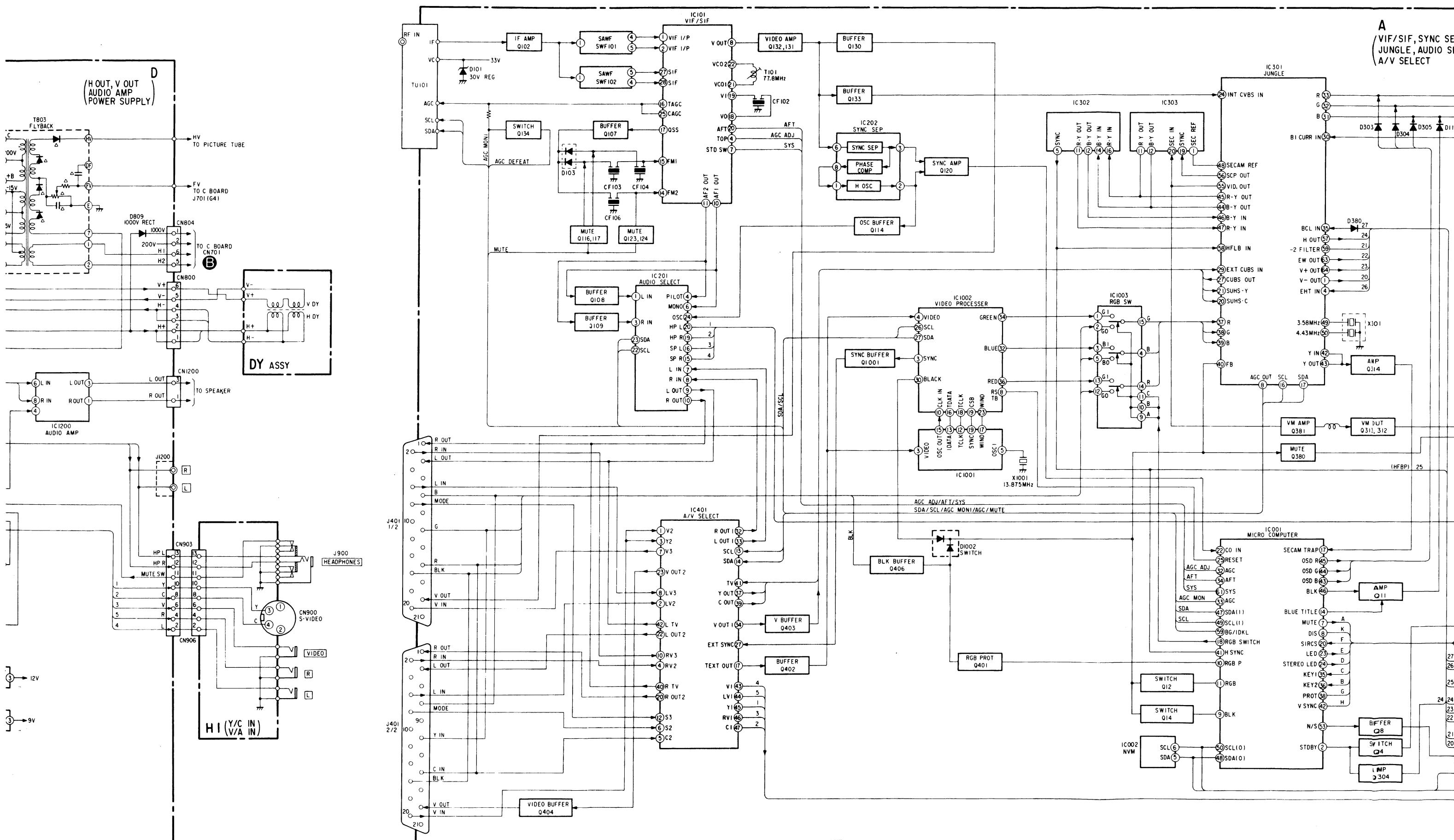
**MEMO**

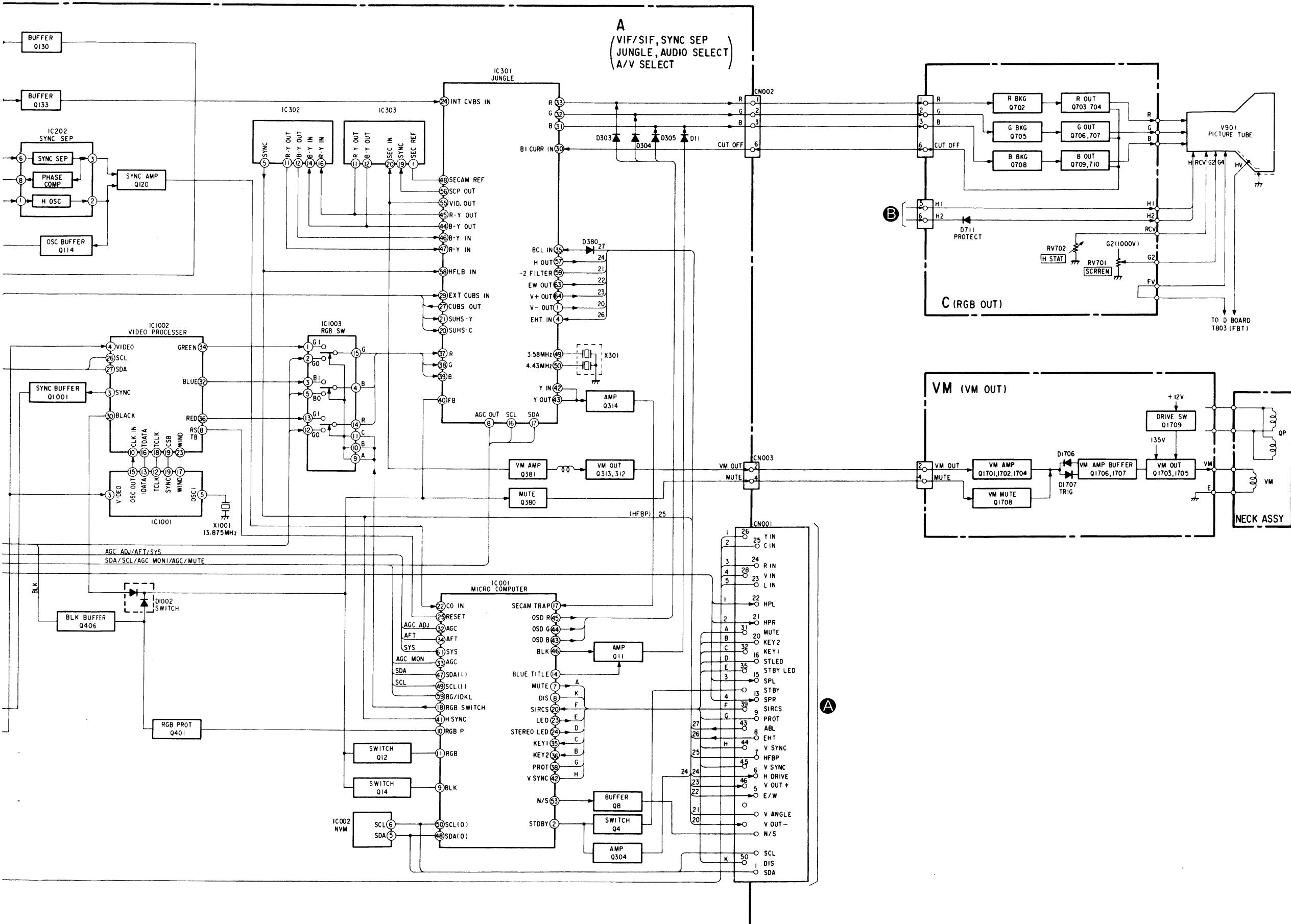
# **SECTION 5**

## **DIAGRAMS**

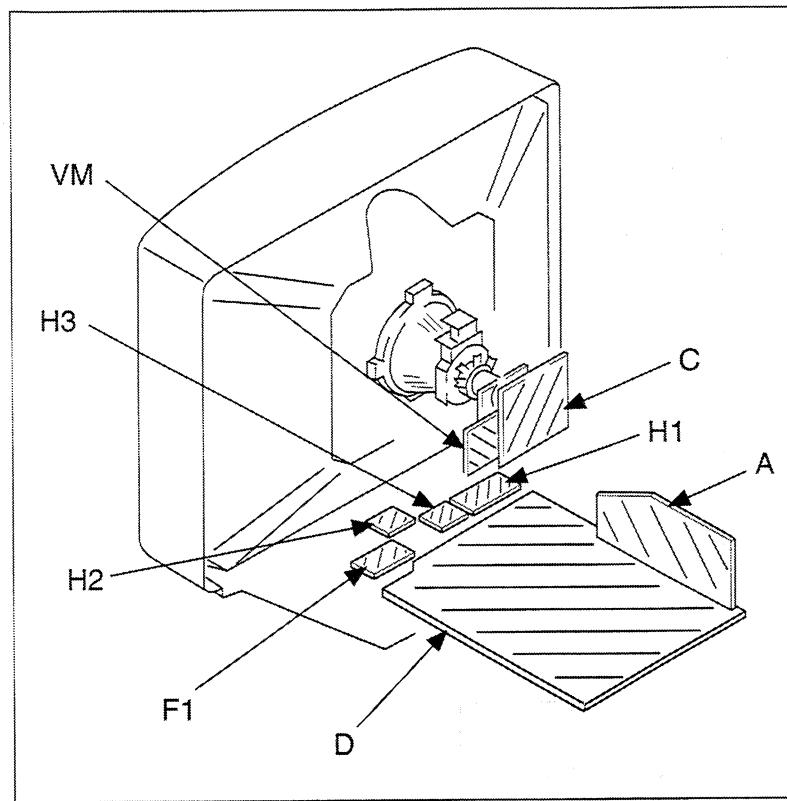
## **5-1. BLOCK DIAGRAM**







## 5-2. CIRCUIT BOARDS LOCATION



## Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
*	**	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLEAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

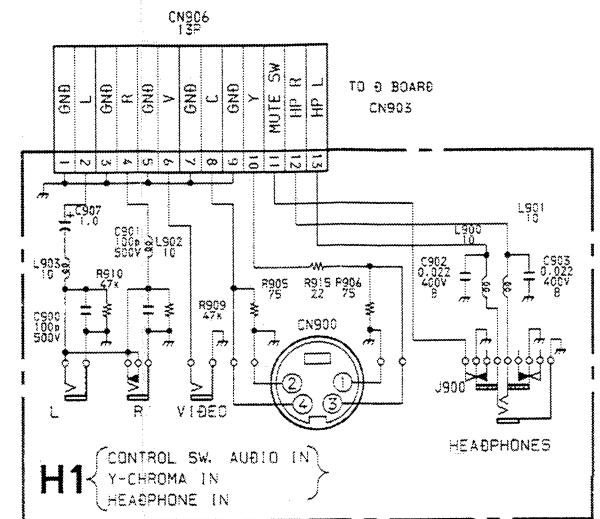
## 5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

## Note :

- All capacitors are in  $\mu$  F unless otherwise noted.  
pF :  $\mu\mu$  F 50V or less are not indicated except for electrolytic.
- Indication of resistance, which dose not have one for rating electrical power, is as follows.
- Pitch : 5mm  
Rating electrical power : 1/4W
- Chip resistor is in 1/10W.
- All resistors are in ohms.  
 $k\Omega = 1000\Omega$ ,  $M\Omega = 1000K\Omega$
- : nonflammable resistor.
- : fusible resistor.
- $\Delta$  : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a  $10M\Omega$  digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- — : B+ bus.
- - - : B- bus.
- : signal path.(RF)
- : earth - ground
- : earth - chassis

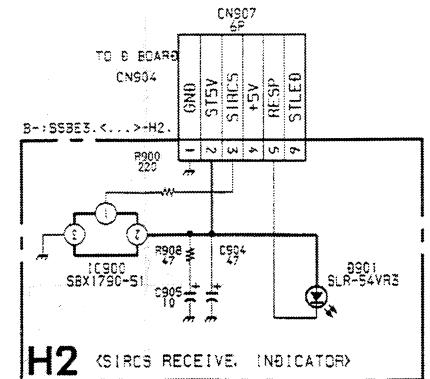
1 2 3 4 5 6

A



B-:SSBE3.&lt;...&gt;-H1.

B



H2 (SIROS RECEIVE INDICATOR)

C

D

E

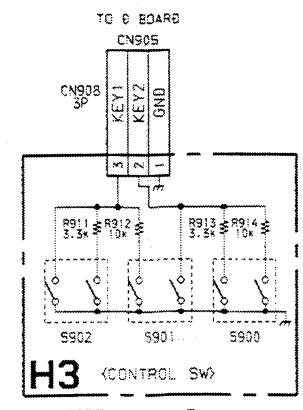
F

G

H

I

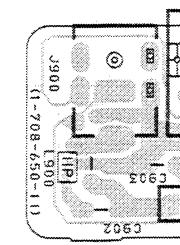
J



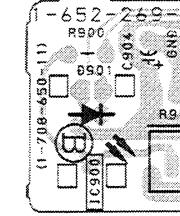
B-:SSBE3.&lt;...&gt;-H3.

H1

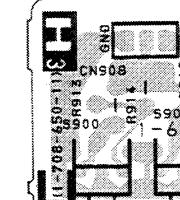
- H1 BOARD



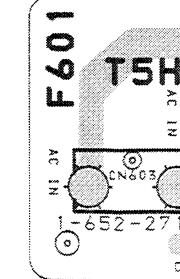
- H2 BOARD



- H3 BOARD



- F1 BOARD



F1

— 36 —

**NOTE:**  
The circuit in  
600 Vp-p. Car  
inspection or r

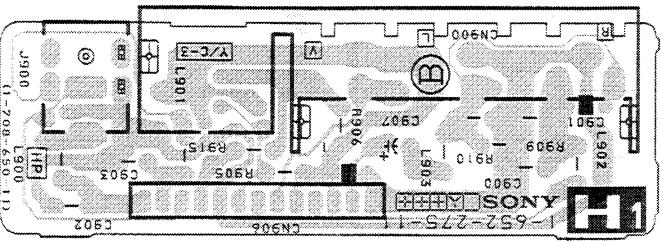
**H1** [ CONTROL SW, AUDIO IN  
Y-CHROMA IN, HEADPHONE IN ]

**H2** [ SIRCS RECEIVE  
INDICATOR ]

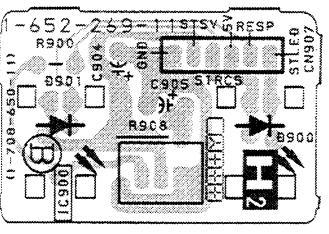
H3 [CONTROL SW]

[AC IN POWER SW] D

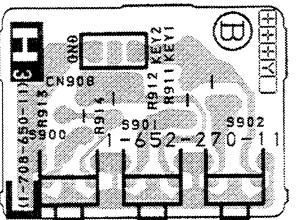
- H1 BOARD -



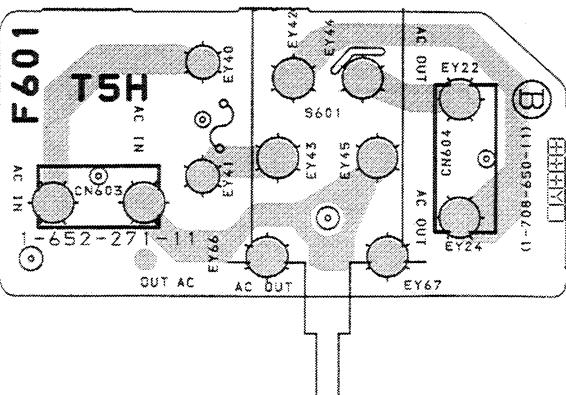
- H2 BOARD -



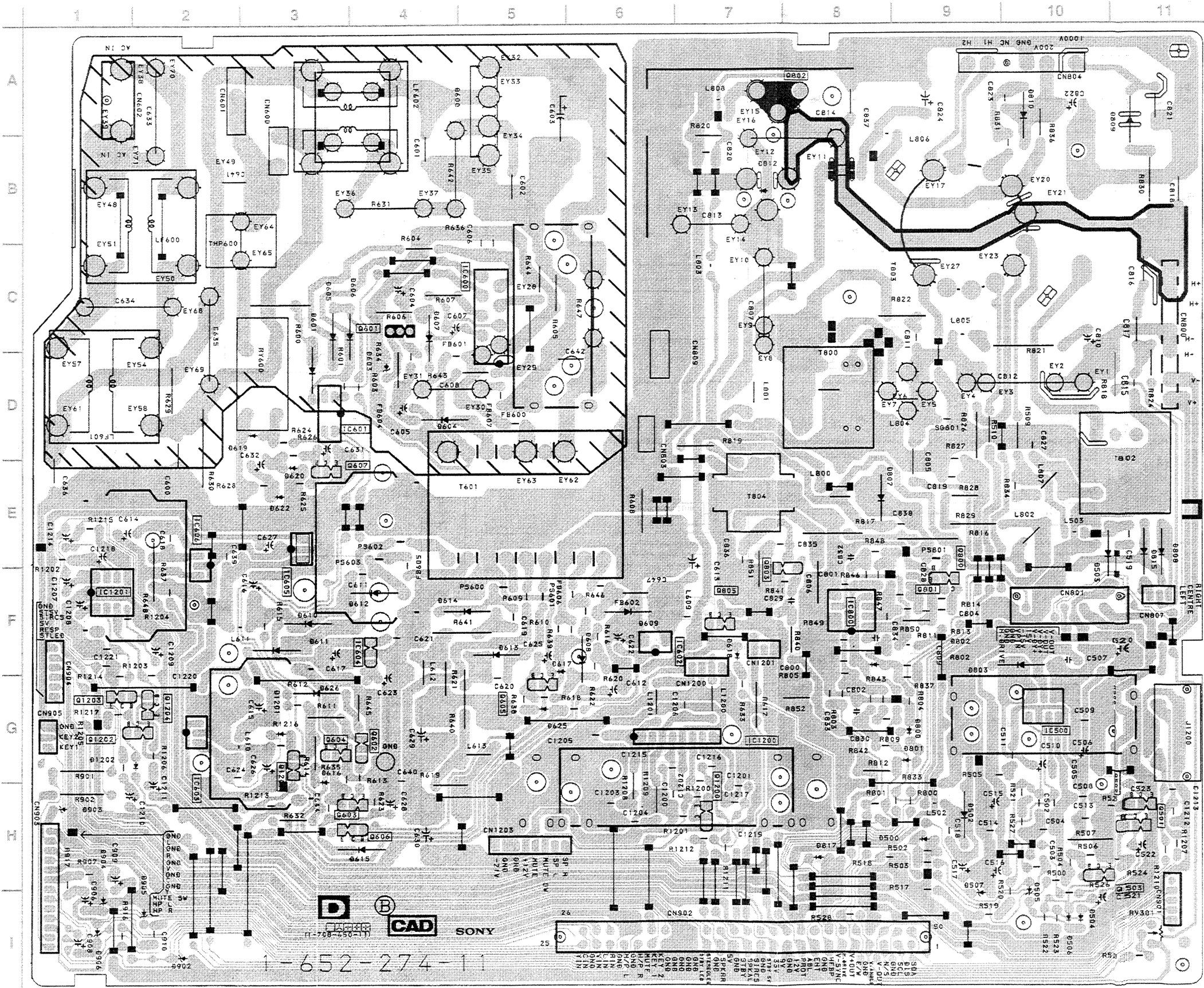
- H3 BOARD -



- F1 BOARD -



- D BOARD -



**KV-X290**

KV-X290

**NOTE:**

**NOTE:** The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

SIRCS RECEIVE  
INDICATOR

H3

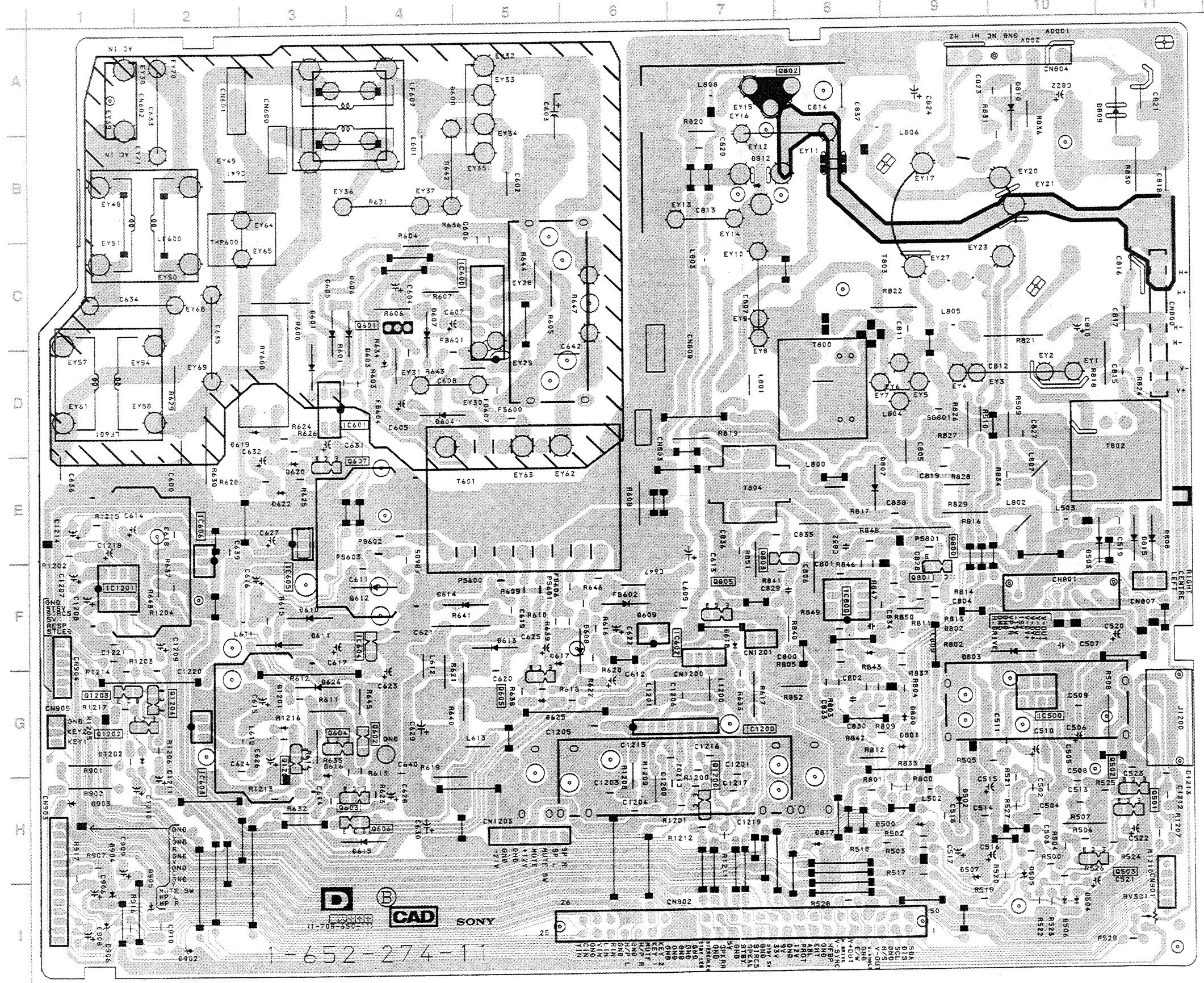
## CONTROL SW

F1

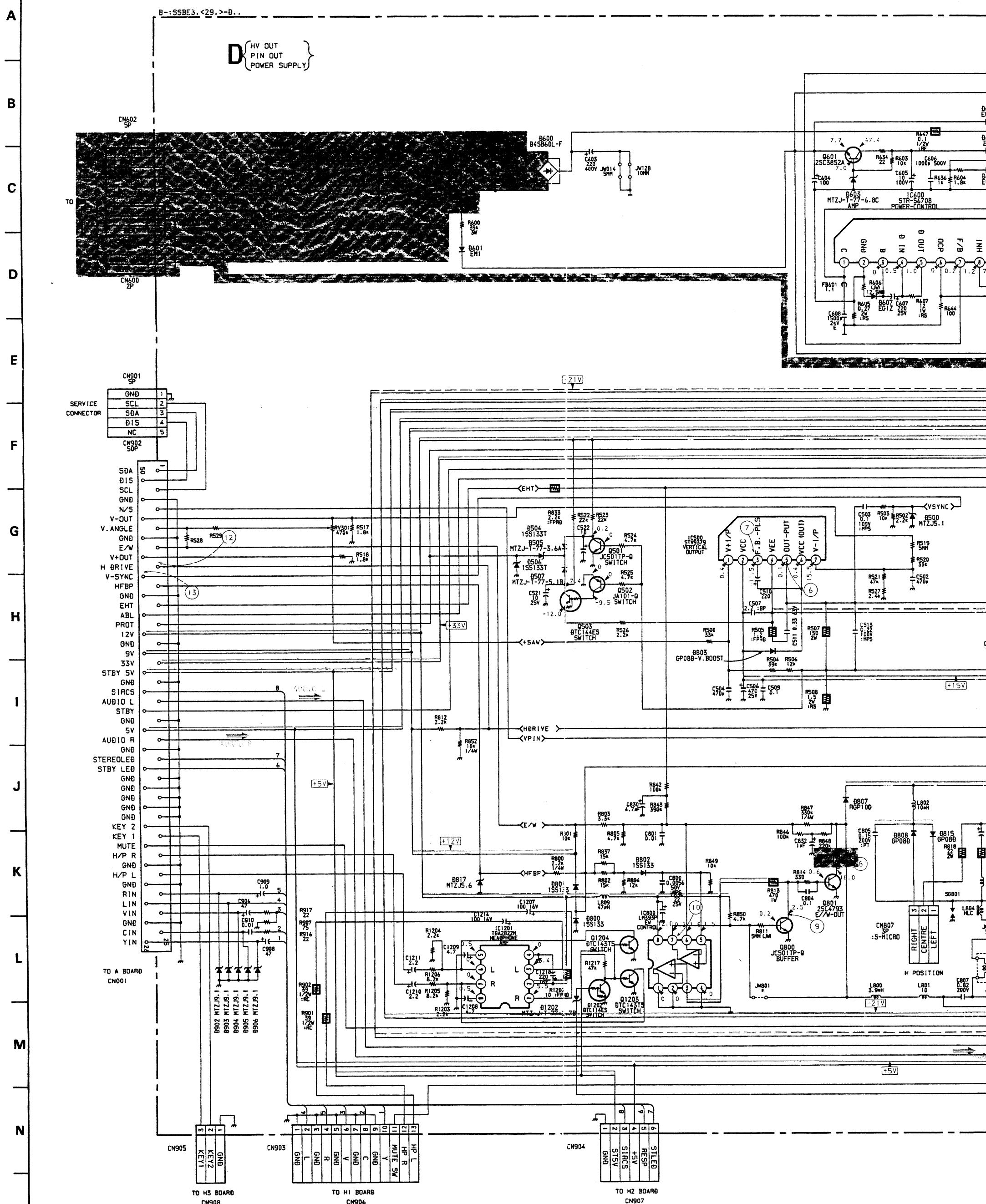
[AC IN POWER SW]

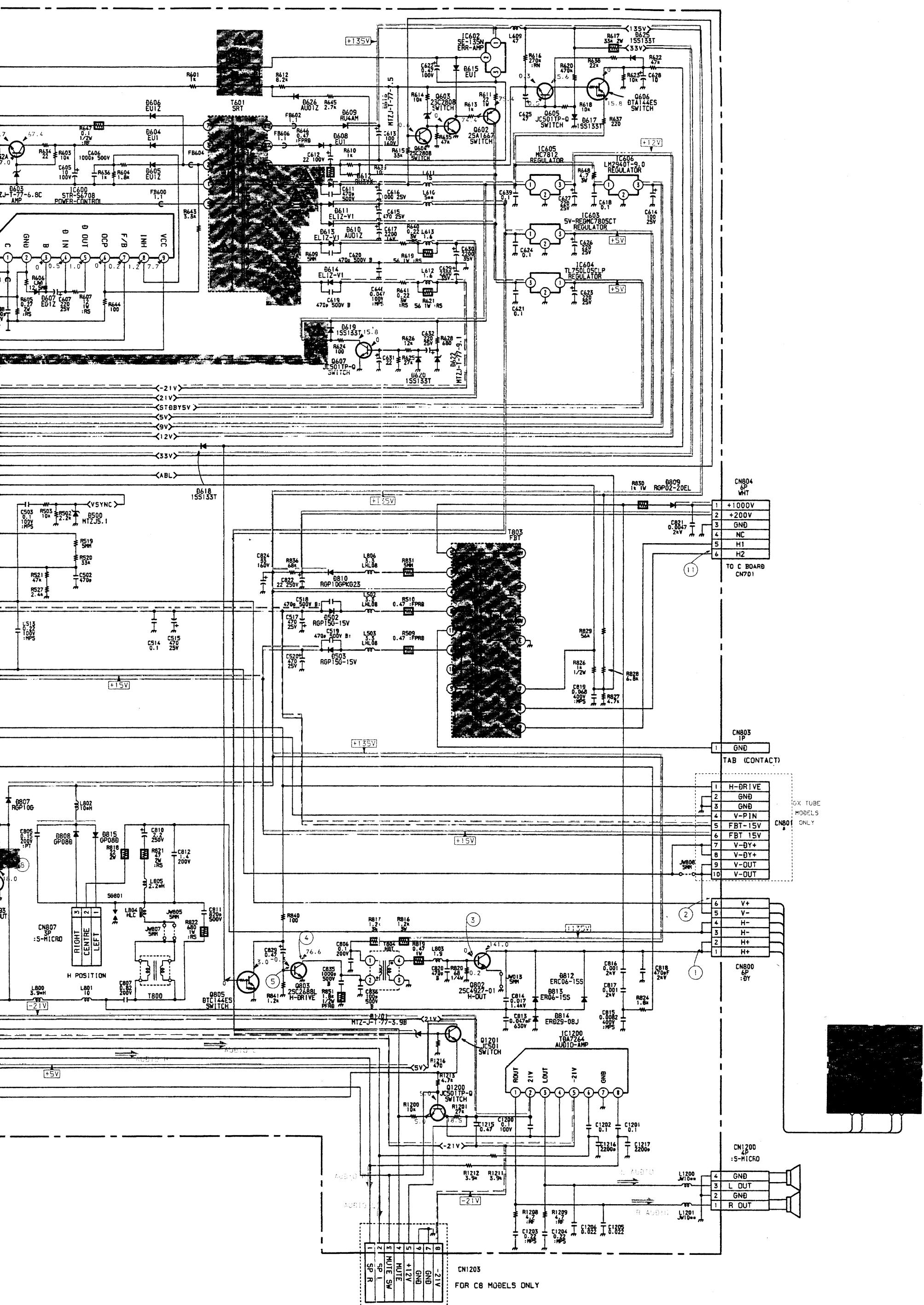
D HV OUT  
PIN OUT  
POWER SUPPLY

- D BOARD -

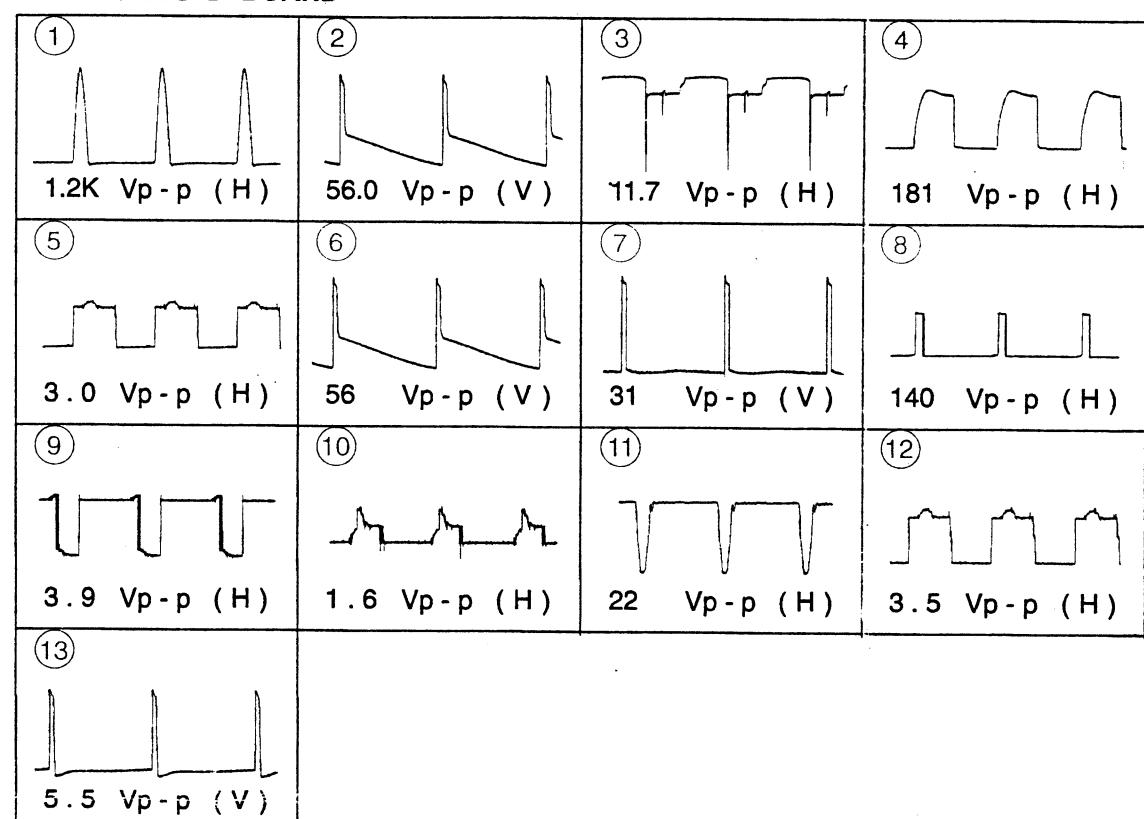


IC		D600	A - 4
IC500	G - 10	D601	C - 3
IC600	C - 5	D603	D - 4
IC601	D - 4	D604	D - 4
IC602	F - 7	D605	C - 3
IC603	H - 2	D606	C - 4
IC604	F - 4	D607	C - 4
IC605	F - 3	D608	F - 6
IC606	E - 2	D609	F - 6
IC800	F - 8	D610	F - 3
IC1200	G - 7	D611	F - 3
IC1201	F - 1	D612	F - 4
TRANSISTOR		D613	F - 5
Q501	H - 11	D614	F - 4
Q502	H - 11	D615	H - 4
Q503	I - 11	D616	G - 3
Q601	C - 4	D617	F - 5
Q602	G - 4	D618	F - 7
Q603	H - 3	D619	D - 2
Q604	G - 3	D620	E - 3
Q605	G - 5	D622	E - 3
Q606	H - 4	D625	G - 5
Q607	E - 4	D626	G - 3
Q800	E - 9	D800	G - 9
Q801	F - 9	D801	G - 9
Q802	A - 8	D802	F - 9
Q803	F - 7	D803	F - 9
Q805	F - 7	D807	E - 9
Q1200	H - 7	D808	E - 11
DIODE		D809	A - 11
D500	G - 9	D810	A - 10
D502	G - 9	D812	B - 7
D503	F - 10	D815	E - 11
D504	I - 10	D817	H - 8
D505	I - 10	D902	I - 2
D506	I - 10	D903	H - 1
D507	G - 9	D904	H - 1
		D905	H - 2
		D906	I - 1

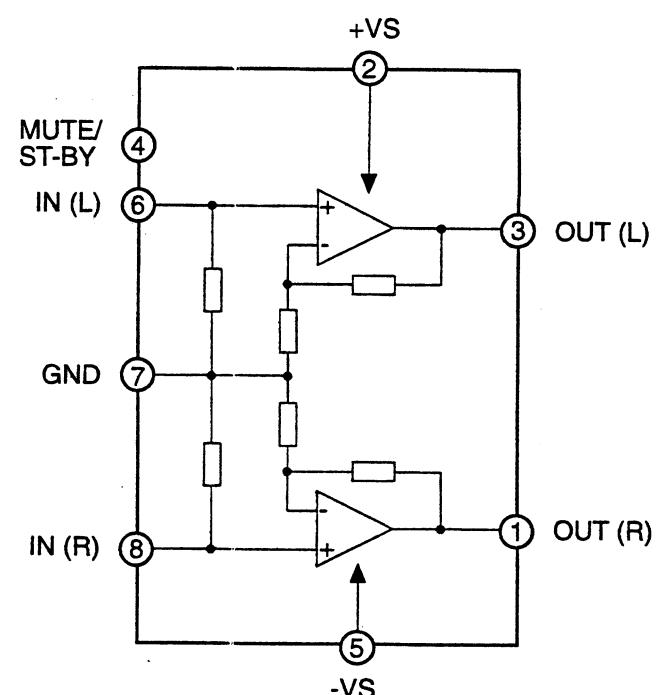




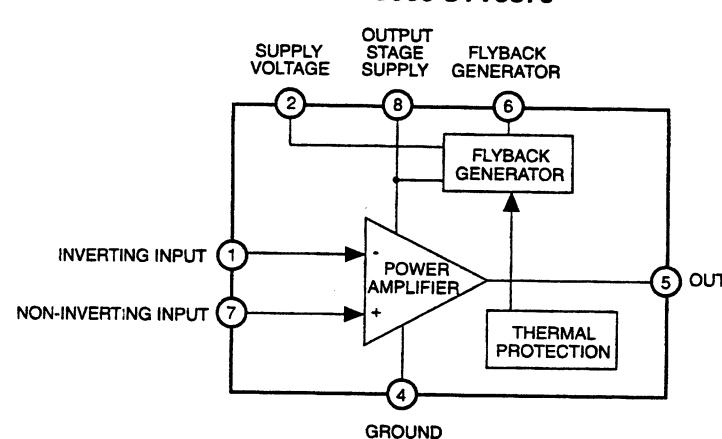
## WAVEFORMS D BOARD



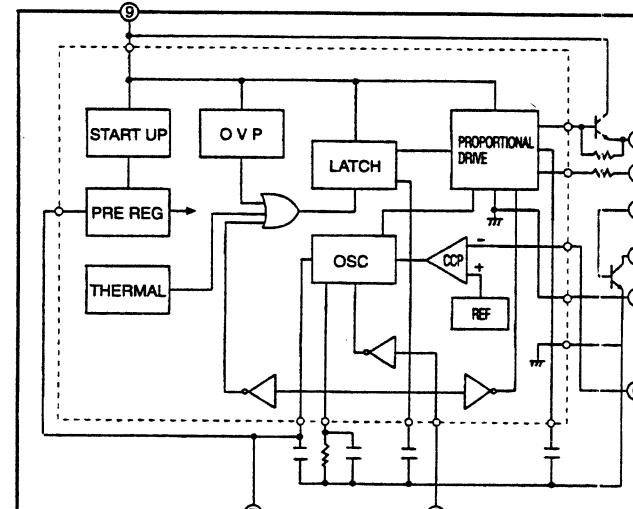
## D BOARD IC1200 TDA7264



## D BOARD IC500 STV9379



## D BOARD IC600 STR-S6708



CN804  
GP  
WHT  
1 +1000V  
2 +200V  
3 GND  
4 NC  
5 H1  
6 H2

TO C BOARD  
CN701

CN803  
1P  
GND  
TAB (CONTACT)

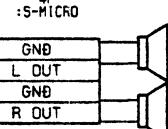
GX TUBE  
MODELS  
ONLY  
1 H-DRIVE  
2 GND  
3 GND  
4 V-PIN  
5 FBT-15V  
6 FBT 15V  
7 V-DY+  
8 V-DY+  
9 V-OUT  
10 V-OUT

CN801  
1 H-  
2 GND  
3 H-  
4 H-  
5 H-  
6 H+  
7 H+  
8 H+

CN800  
6 BY



CN1200  
S-MICRO



A

B

C

D

5

5

8

2

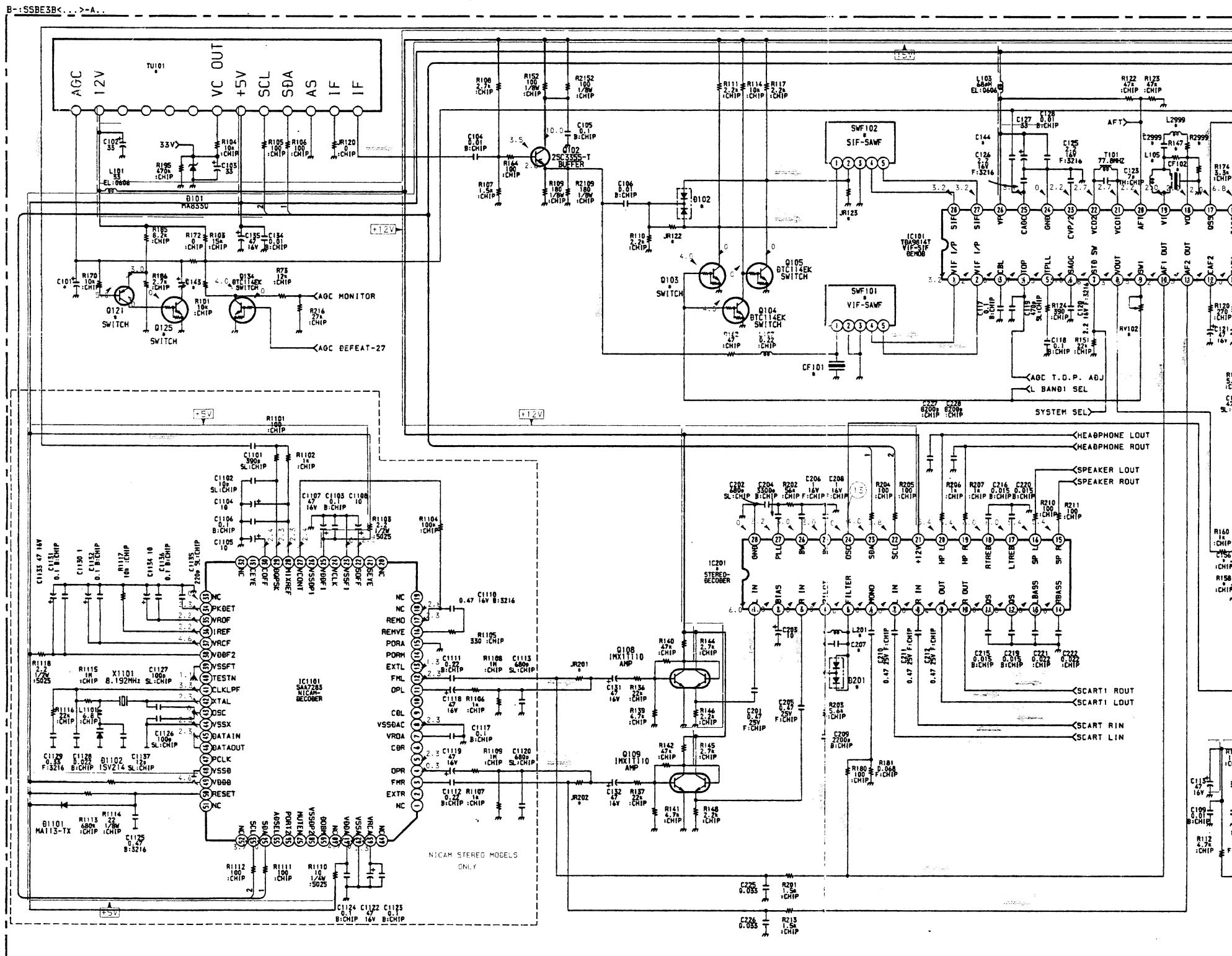
J

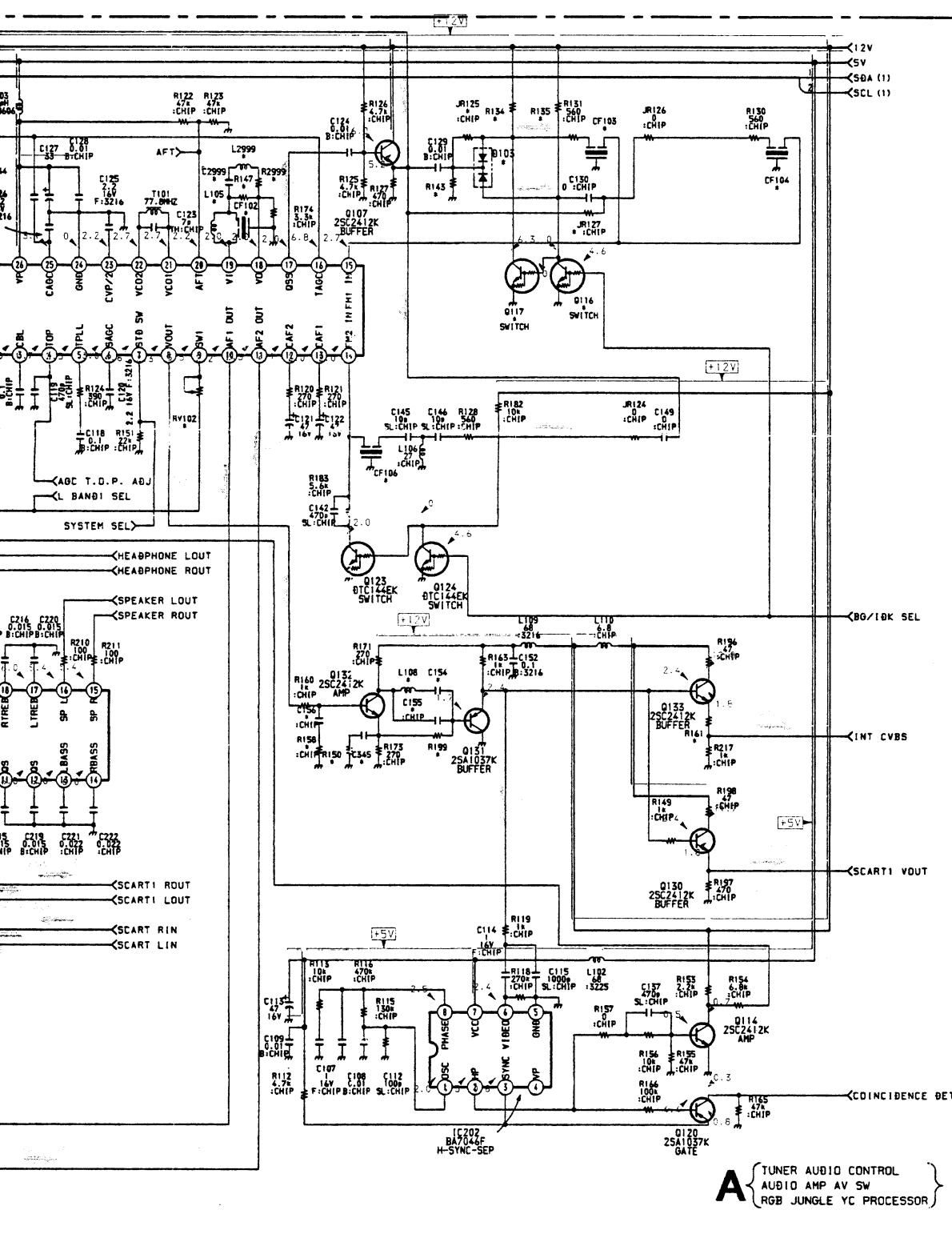
K

1

4

2

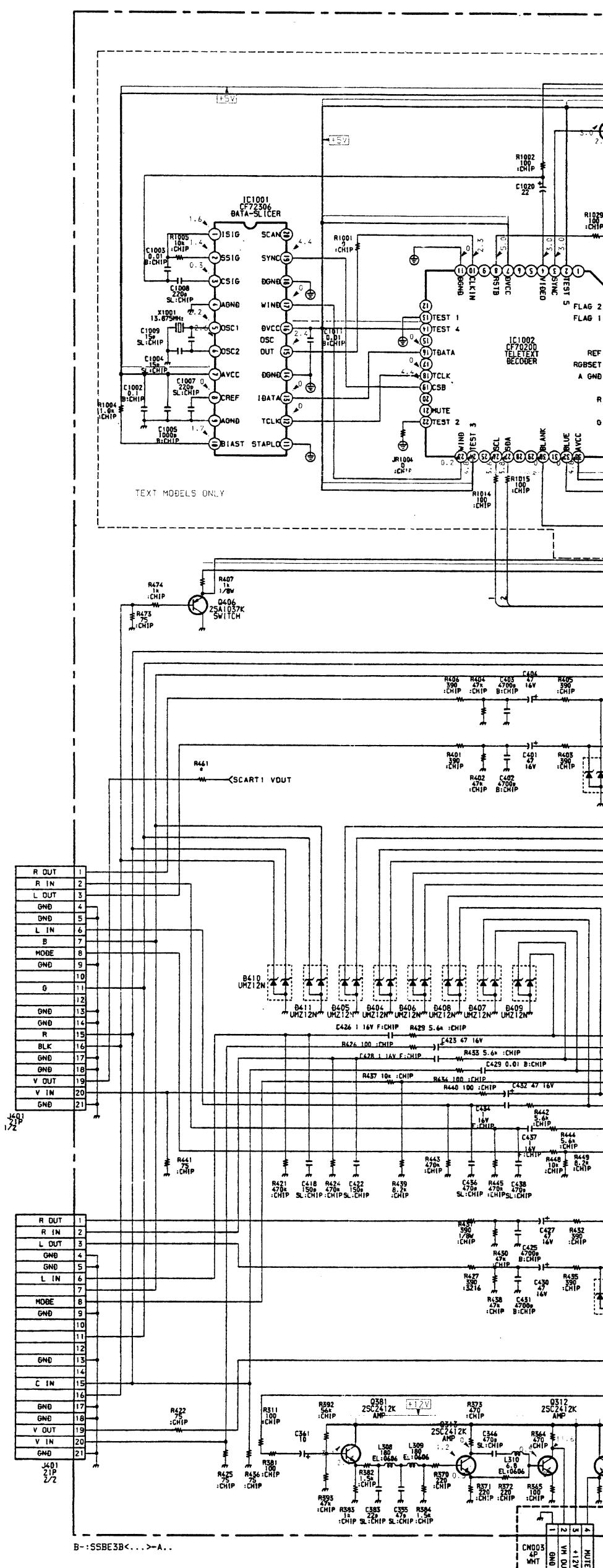


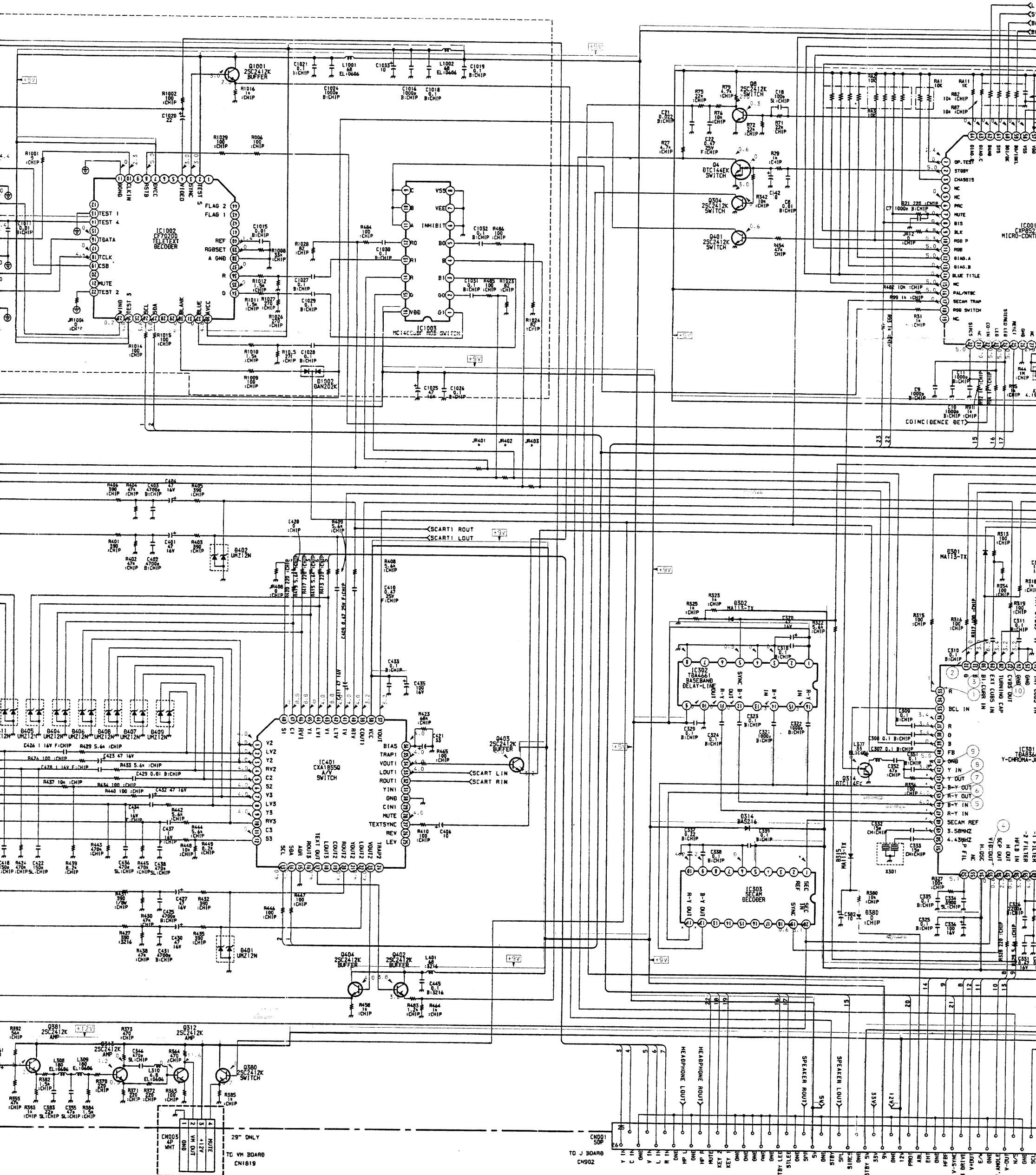


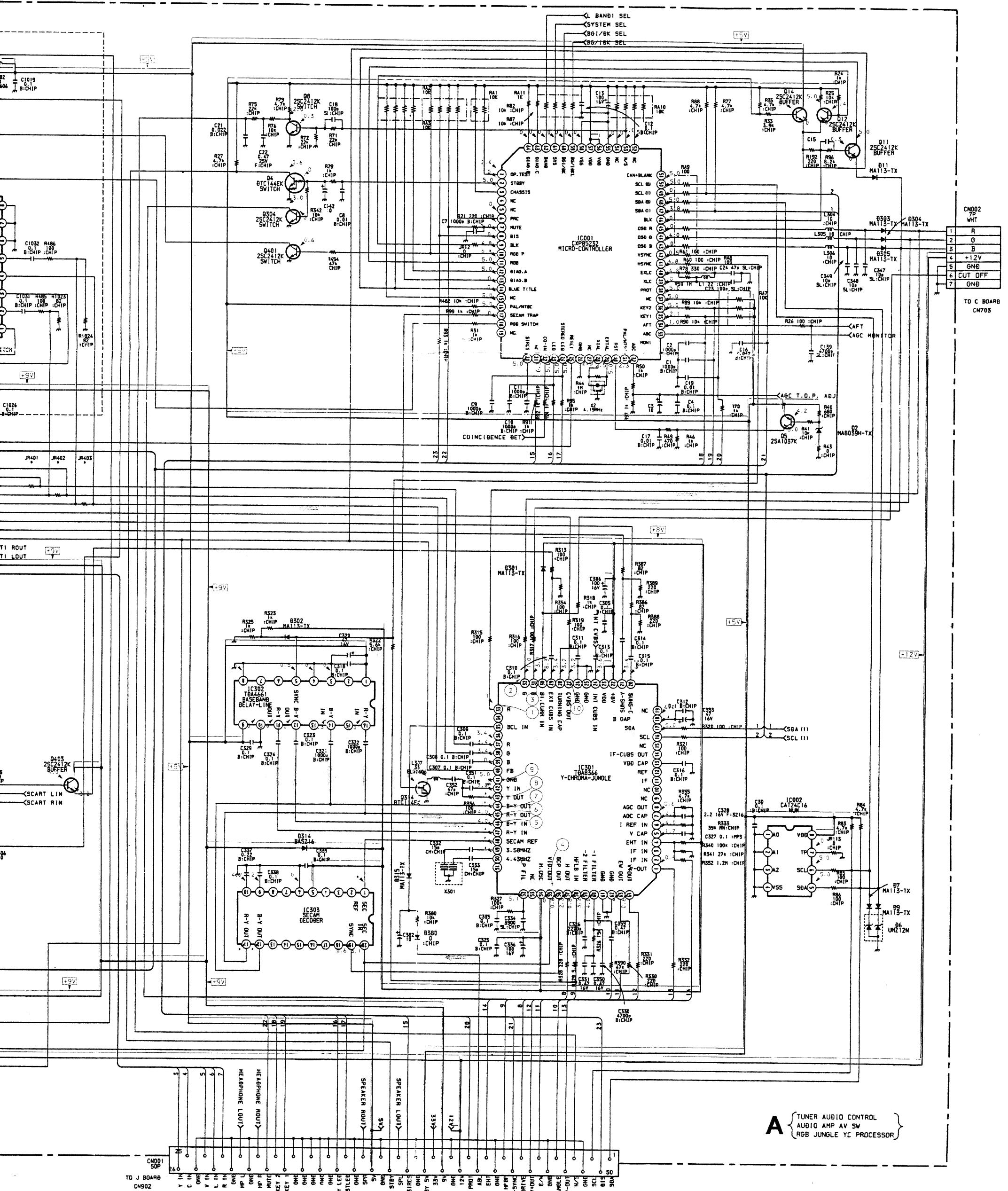
Voltages indicated with the mark  $\otimes$  on the schematic diagram are shown in the table below.

#### A BOARD

IC	Pin	PAL	SECAM	NTSC 3.58	NTSC 4.43
IC301	17	4.0	4.0	4.0	0
	35	3.6	2.5	3.5	3.5
	44	1.5	3.1	1.5	1.5
	45	1.5	3.0	1.5	1.5
	48	1.7	4.4	1.6	1.7
	49	1.4	1.4	2.0	1.4
	50	2.0	2.0	1.4	2.0
	63	3.4	2.5	2.2	2.5
	12	1.5	3.1	1.5	1.5
IC303	1	1.7	4.4	1.6	1.7
	11	1.5	3.0	1.5	1.5
	12	1.5	3.1	1.5	1.5



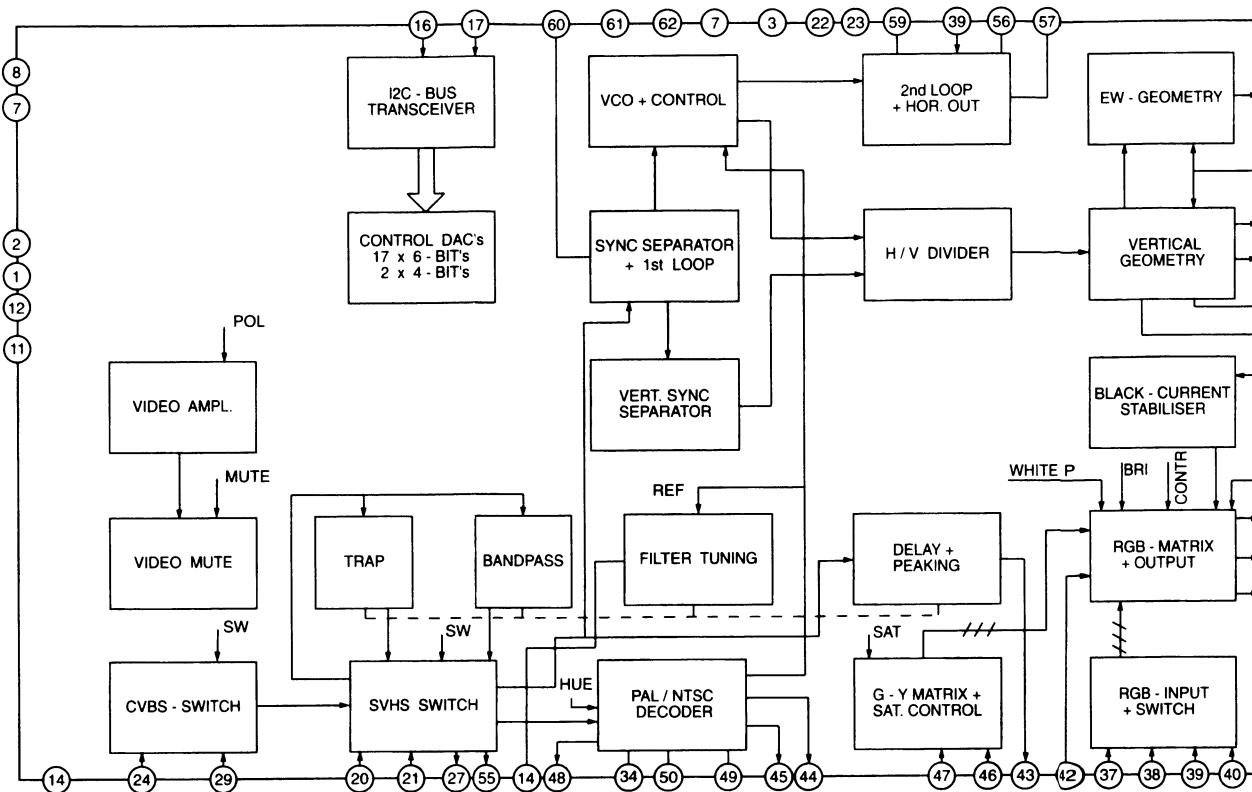




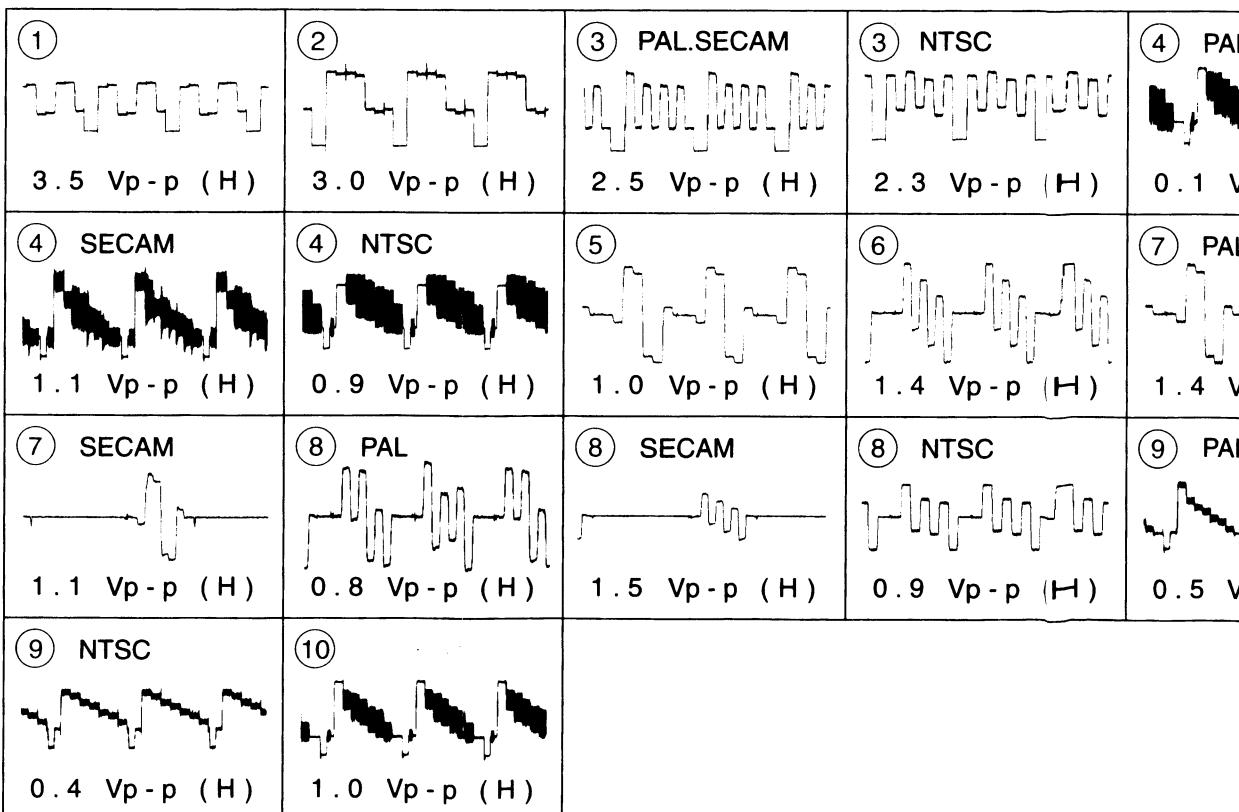
## A BOARD \* MARK

Ref	X2901D	X2901A	X2900B	X2901B	X2903E	X2902L	X2902U	X2901K
C101	22mF	22mF	4.7mF	4.7mF	22mF	22mF	22mF	
C143	-	-	100mF 16V	100mF 16V	-	-	-	
C144	-	-	1mF	1mF	-	-	-	
C154	180pF	180pF	150pF	150pF	180pF	-	-	180pF
C155	47pF	47pF	33pF	33pF	47pF	-	-	47pF
C156	18pF	18pF	-	-	18pF	-	-	18pF
C207	0.0018mF 100V	-	-	0.0018mF 100V				
CF101	EFCV4045A4	EFCV4045A4	EFCV4045A4	EFCV4045A4	EFCV4045A4	-	-	EFCV4045A4
CF102	5.5mHz	5.5mHz	5.5mHz/6.6mHz	5.5mHz/6.6mHz	5.5mHz	6.0mHz	6.0mHz	5.5mHz
CF103	5.5mHz	5.5mHz	5.5mHz	5.5mHz	5.5mHz	-	-	5.5mHz
CF104	6.5mHz	-	6.0mHz	6.0mHz	-	SFE6.0MB	SFE6.0MB	6.5mHz
CF106	5.75mHz	5.75mHz	5.75mHz	5.75mHz	5.75mHz	-	-	5.75mHz
D102	-	-	DAN202K	DAN202K	-	-	-	
D103	DAN202K	-	DAN202K	DAN202K	-	-	-	DAN202K
D201	DA204K	DA204K	DA204K	DA204K	DA204K	-	-	DA204K
IC201	TDA6612	TDA6612	TDA6612	TDA6612	TDA6622	TDA6622	TDA6612	
IC303	TDA8395T	-	TDA8395T	TDA8395T	-	-	-	TDA8395T
JR122	0 :CHIP	0 :CHIP	-	-	0 :CHIP	0 :CHIP	0 :CHIP	0 :CHIP
JR123	0 :CHIP	0 :CHIP	-	-	0 :CHIP	0 :CHIP	0 :CHIP	0 :CHIP
JR125	-	0 :CHIP	-	-	0 :CHIP	-	-	-
JR127	-	-	-	-	0 :CHIP	-	-	-
JR201	0 :CHIP	0 :CHIP	0 :CHIP	0 :CHIP	-	-	-	0 :CHIP
JR202	0 :CHIP	0 :CHIP	0 :CHIP	0 :CHIP	-	-	-	0 :CHIP
JR401	-	-	0 :CHIP	-	-	-	-	-
JR402	-	-	0 :CHIP	-	-	-	-	-
JR403	-	-	0 :CHIP	-	-	-	-	-
L105	15μH	15μH	8.2μH	8.2μH	15μH	15μH	15μH	15μH
L108	15μH	15μH	27μH	27μH	15μH	-	-	15μH
L201	4.7mmH	4.7mmH	4.7mmH	4.7mmH	4.7mmH	-	-	4.7mmH
Q103	-	-	DTC114EK	DTC114EK	-	-	-	
Q116	DTC144EK	-	DTC144EK	DTC144EK	-	-	-	DTC144EK
Q117	DTC144EK	-	DTC144EK	DTC144EK	-	-	-	DTC144EK
Q121	-	-	2SA1037K	2SA1037K	-	-	-	-
Q125	-	-	DTC114EK	DTC114EK	-	-	-	-
R134	2.2K	-	2.2K	2.2K	-	-	-	2.2K
R135	2.2K	-	2.2K	2.2K	-	-	-	2.2K
R143	2.2K	-	2.2K	2.2K	-	-	-	2.2K
R147	270	270	150	150	270	270	270	270
R158	12K	12K	-	-	12K	-	-	12K
R199	330	330	470	470	330	-	-	330
RV102	-	-	22K	22K	-	-	-	-
SWF101	K3953M	K3953M	K3953M	K3953M	K3953M	J3950M	J3950M	K3953M
SWF102	K9350M	K9350M	K9453M	K9453M	K9350M	K9350M	K9350M	K9350M
TU101	UV-916H	UV-916H	UV-916H	UV-916H	UV-916H	U-944C	U-944C	UV-916H

## A BOARD IC301 TDA8366T



## WAVEFORMS A BOARD

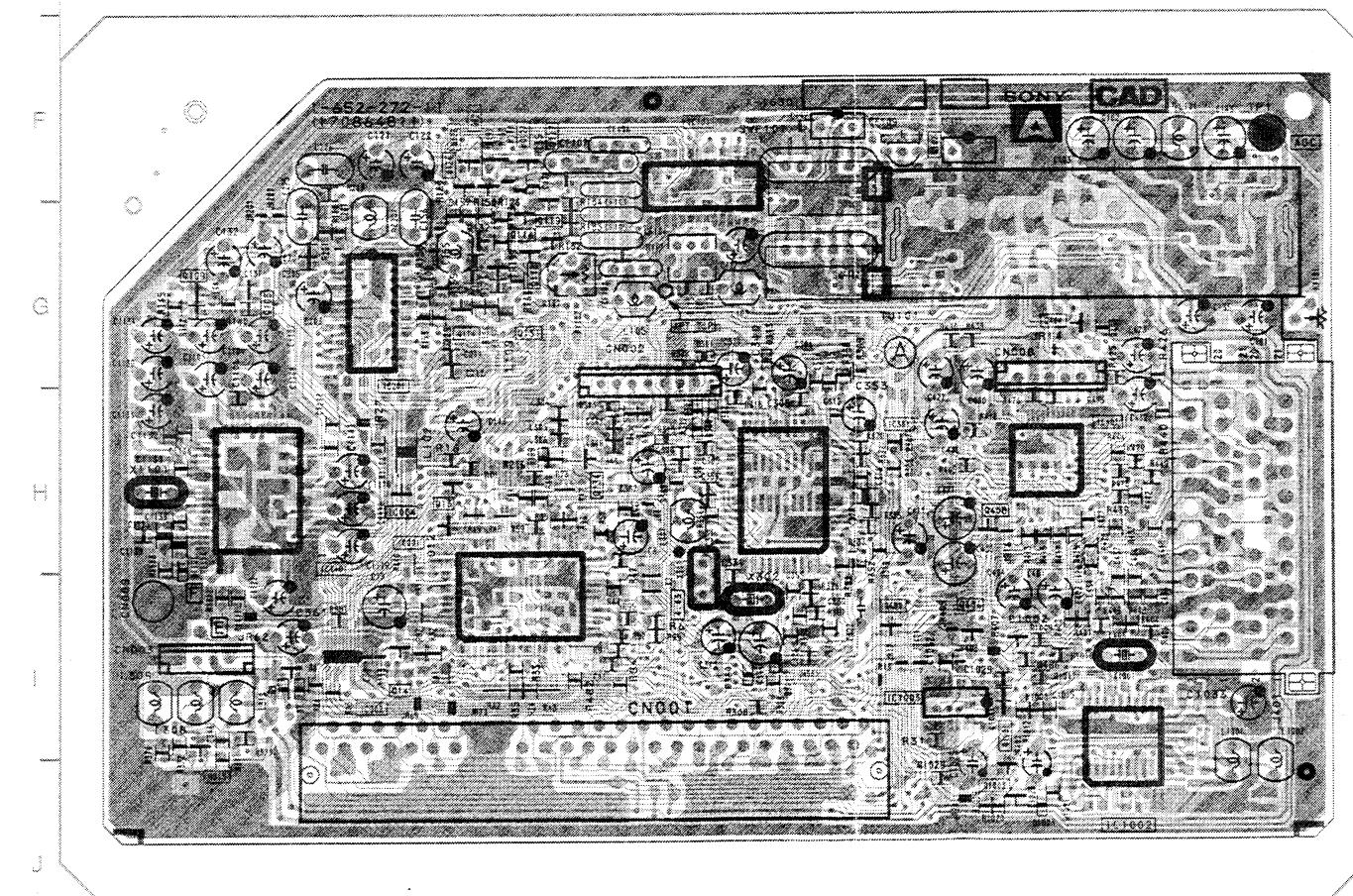
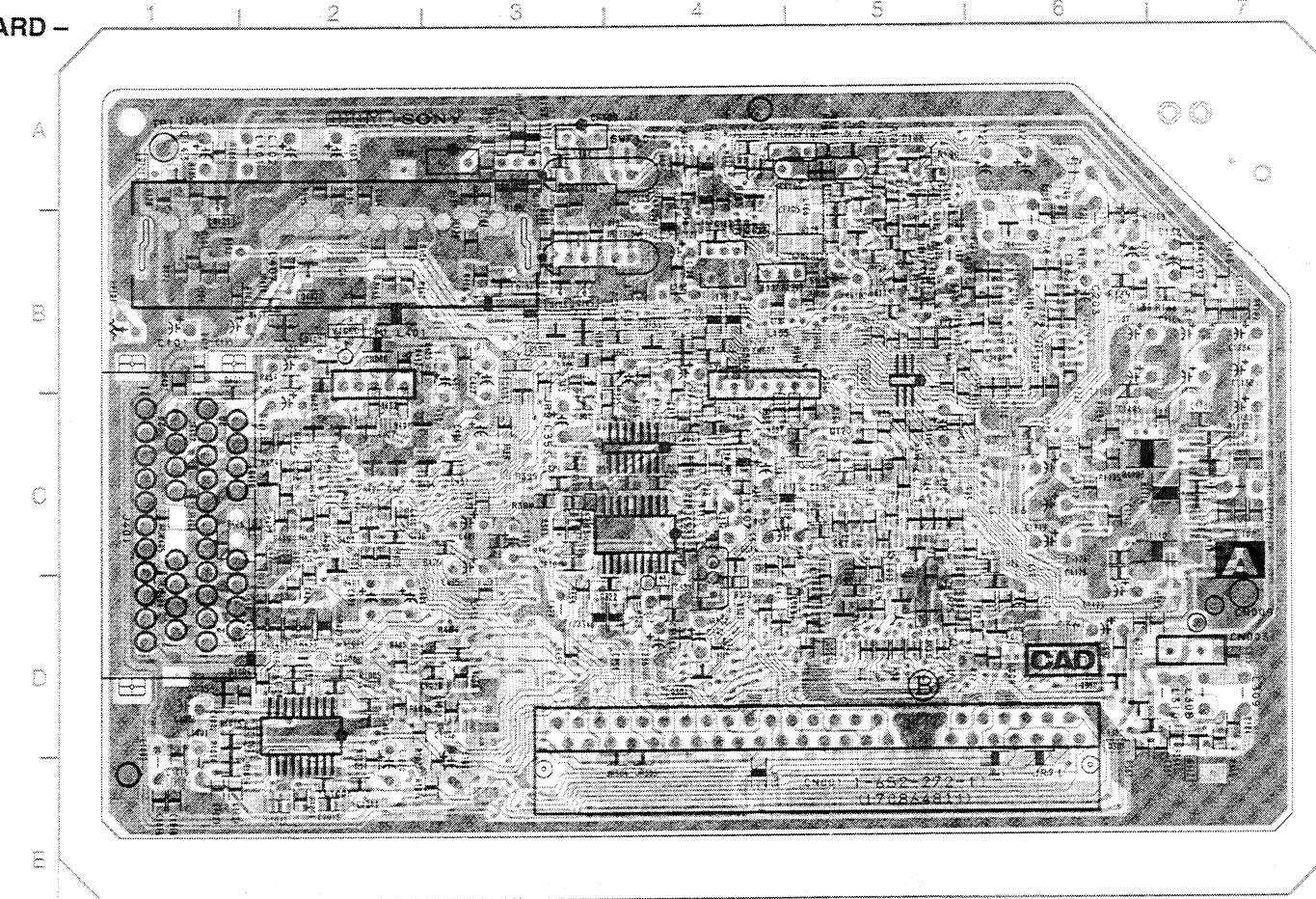
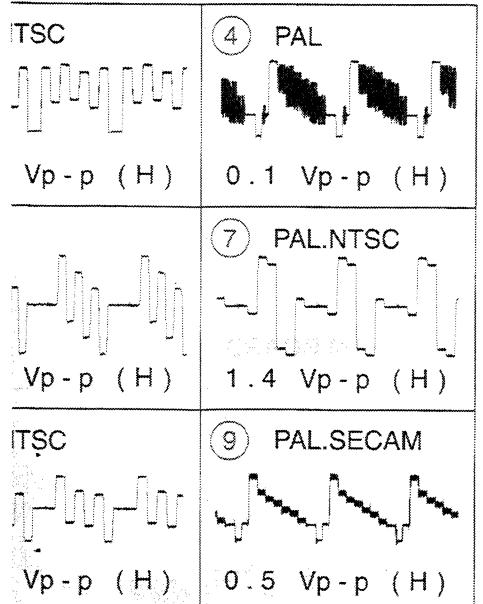
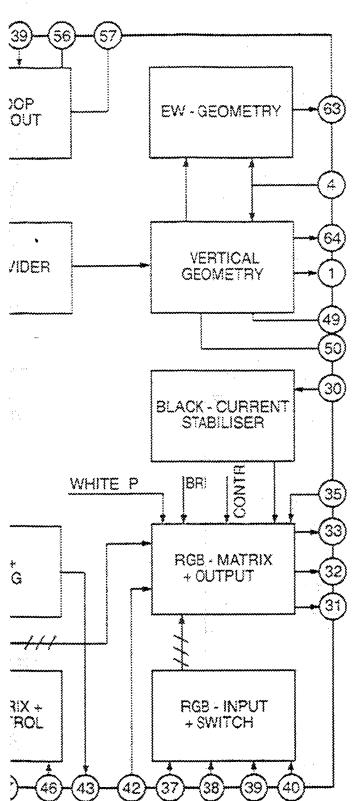


**A** TUNER AUDIO CONTROL  
AUDIO AMP AV SW  
RGB JUNGLE YC PROCESSOR

KV-X290

KV-X290

- A BOARD -

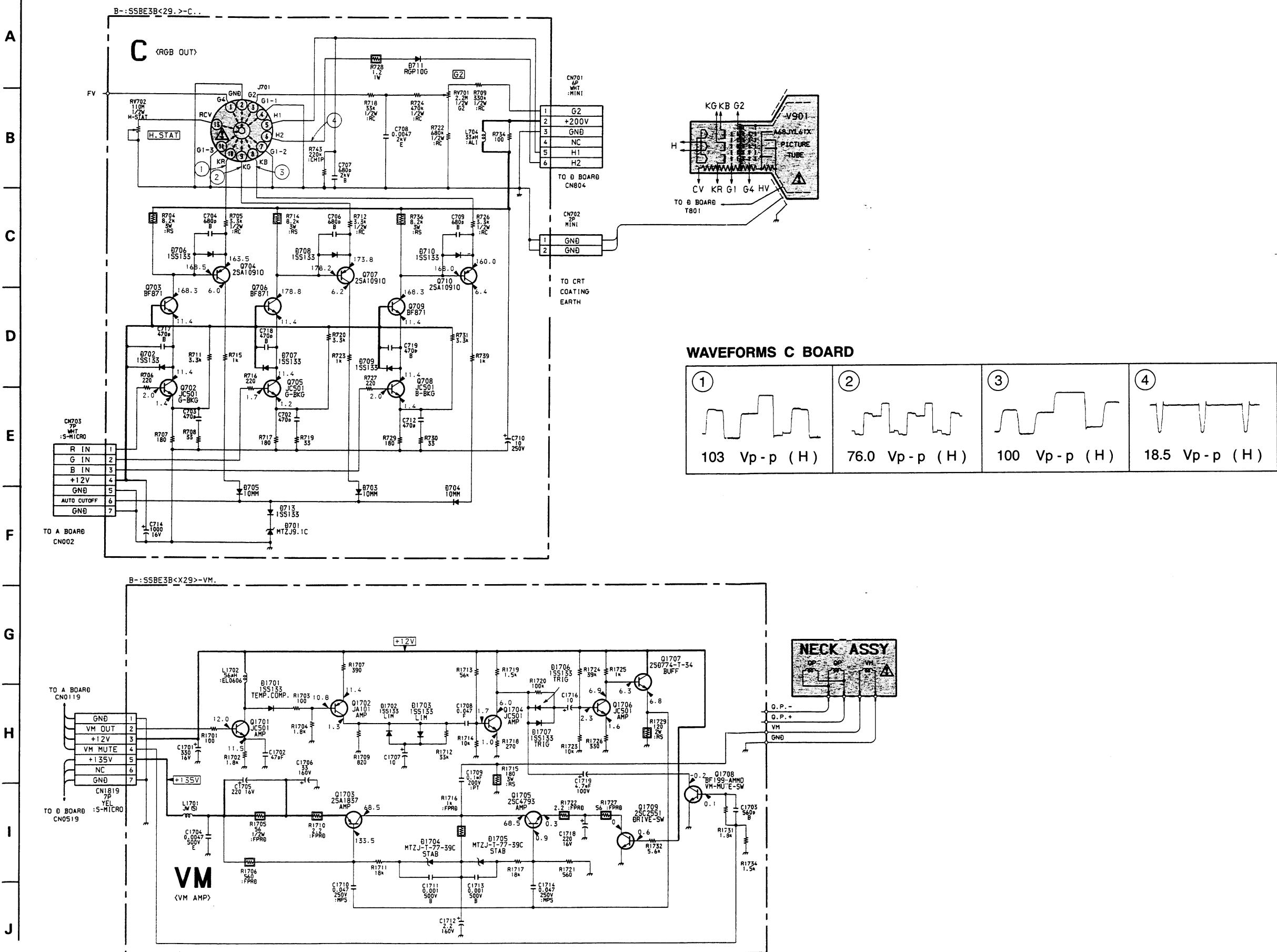


IC	
Q313	J - 1
Q314	C - 4
Q380	D - 6
Q381	D - 6
Q401	I - 5
Q402	B - 2
Q403	B - 3
Q404	G - 6
Q1001	I - 6
Q1003	J - 5
DIODE	
D6	I - 2
D7	I - 2
D9	I - 2
D11	D - 5
D101	B - 2
D102	B - 4
D103	A - 5
D201	B - 6
D301	G - 4
D302	C - 4
D303	H - 3
D304	B - 5
D305	C - 4
D314	B - 3
D380	I - 4
D401	C - 2
D402	C - 2
D404	C - 2
D405	C - 2
D406	C - 2
D407	C - 2
Q121	A - 1
Q123	B - 4
Q124	F - 3
Q125	B - 1
Q130	B - 3
Q131	G - 3
Q132	G - 3
Q133	B - 4
Q304	D - 4
Q312	E - 7

Note :

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

1 2 3 4 5 6 7 8 9 10 11 12 13





## SECTION 6

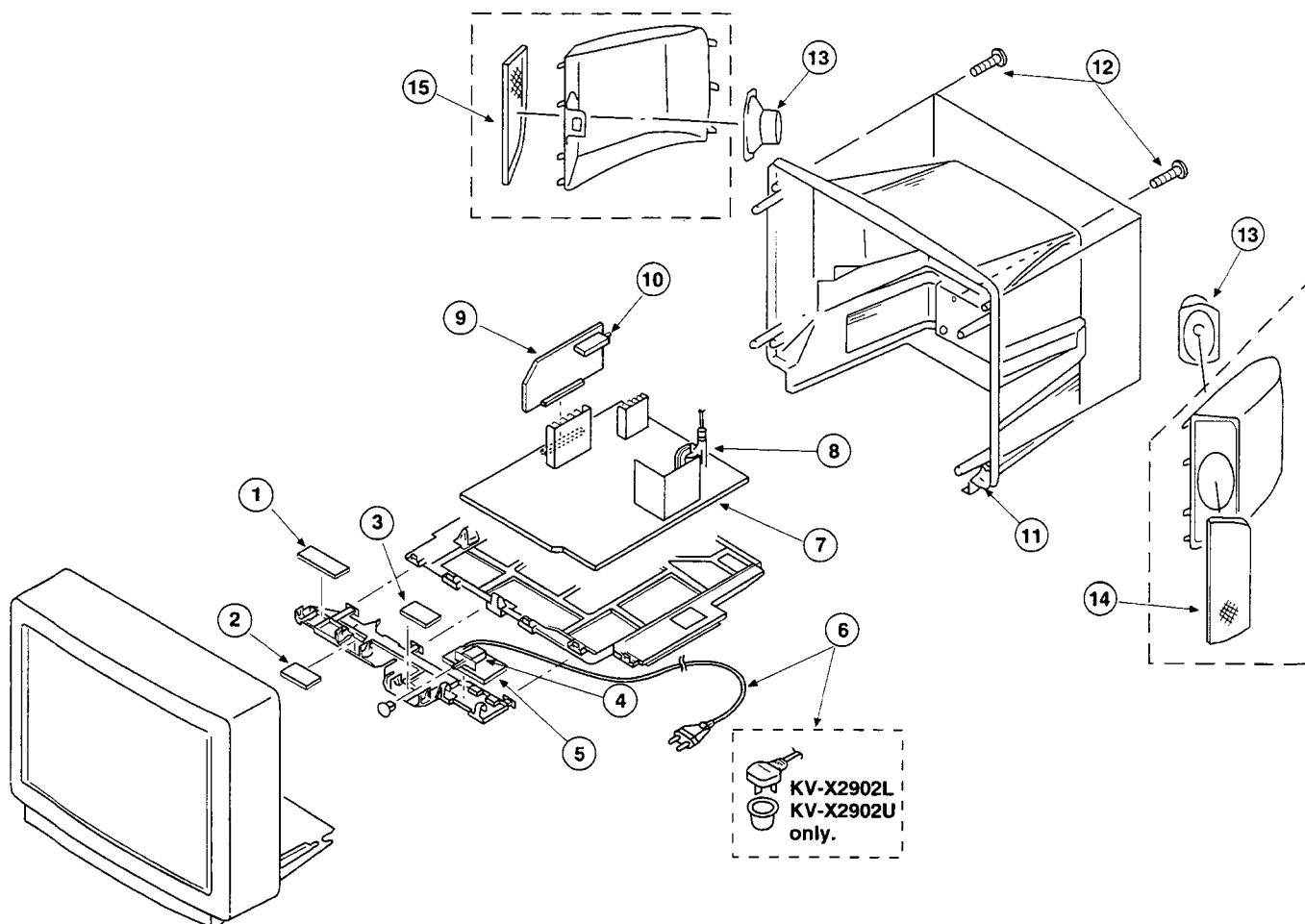
### EXPLODED VIEWS

**NOTE :**

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.

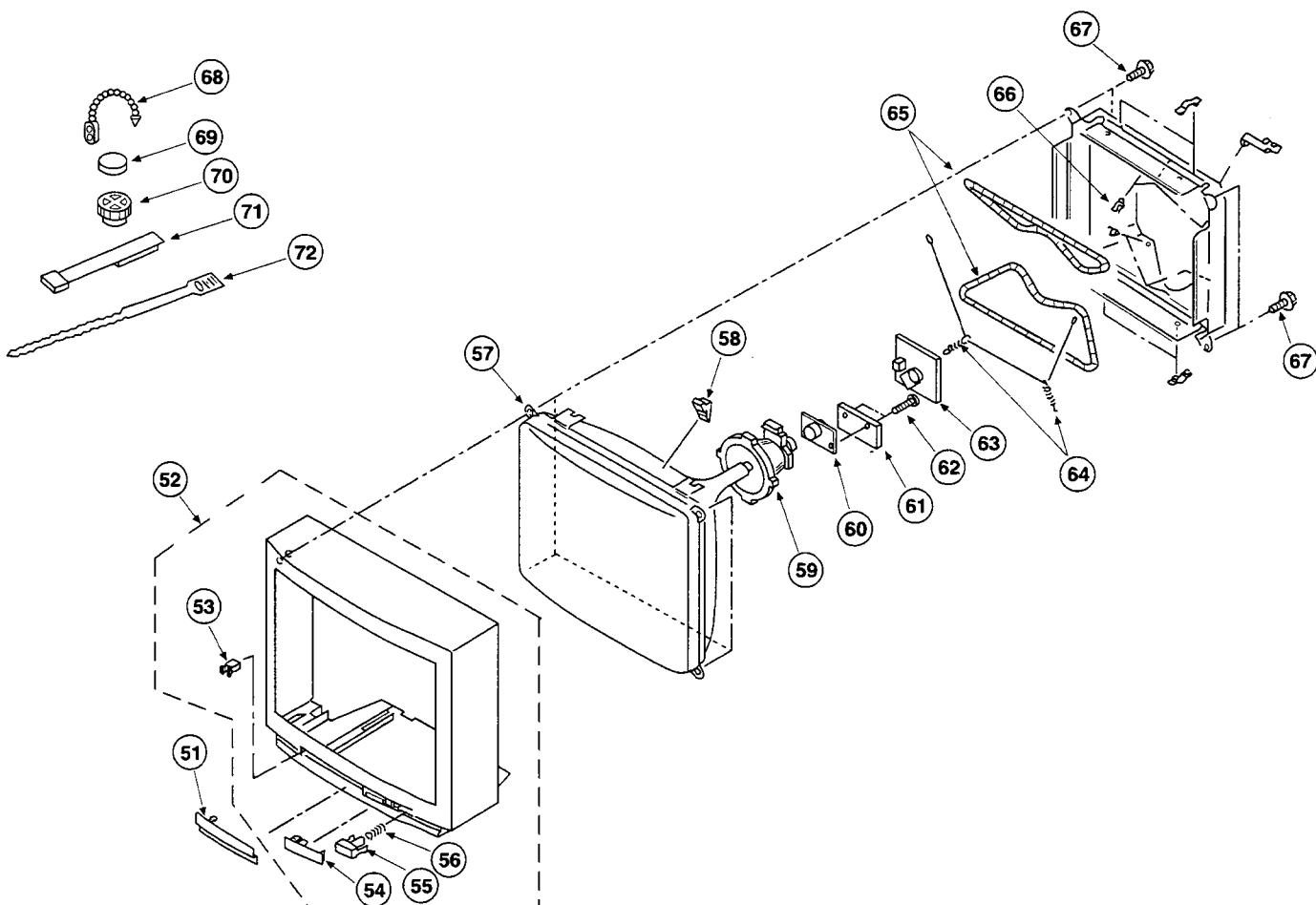
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked ! are critical for safety.  
Replace only with the part number specified.

**6-1. CHASSIS**


REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
1	*1-652-275-11	H1 BOARD				A BOARD, COMPLETE (KV-X2900B)	
2	*1-652-270-11	H3 BOARD				*A-1632-174-A A BOARD, COMPLETE (KV-X2901D)	
3	*1-652-269-11	H2 BOARD				*A-1632-194-A A BOARD, COMPLETE (KV-X2903E)	
4	△ 1-571-433-11	SWITCH, PUSH (AC POWER)				*A-1632-197-A A BOARD, COMPLETE (KV-X2901K)	
5	*1-652-271-11	F1 BOARD				*A-1632-195-A A BOARD, COMPLETE (KV-X2902L)	
6	△ 1-751-580-11	CORD, POWER (WITH NOISE FILTER) (KV-X2901B/X2901A)				*A-1632-199-A A BOARD, COMPLETE (KV-X2902U)	
	△ 1-590-460-11	CORD, POWER (WITH CONNECTOR) (KV-X2900B/X2901B/X2903E/X2901K)		10	1-693-185-11	TUNER (UV916H) (KV-X2900B/X2901B /X2903E/X2901K/X2901D /X2901A/X2902L)	
	△ 1-590-762-11	CORD, POWER (WITH PLUG) (KV-X2902U/X2902L)		11	1-693-184-11	TUNER (U944C) (KV-X2902U)	
7	*A-1642-115-A	D BOARD, COMPLETE		12	4-202-713-01	COVER, REAR	
8	△ 1-453-169-11	FBT ASSY (UX1604A2)		13	4-039-358-01	SCREW (4x16), (+) BV TAPPING	
9	*A-1632-193-A	A BOARD, COMPLETE (KV-X2901A)		14	1-544-727-11	SPEAKER (7.5x13CM)	
	*A-1632-196-A	A BOARD, COMPLETE (KV-X2901B)		15	X-4200-087-1	BAFFLE (R) ASSY, BOARD	
					X-4200-088-1	BAFFLE (L) ASSY, BOARD	

## 6-2. PICTURE TUBE



The components identified by shading and marked are critical for safety.

Replace only with the part number specified.

REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
51	4-202-701-01	DOOR, CONTROL		61	*A-1644-028-A	VM BOARD, COMPLETE	
52	X-4200-157-1	BEZNET ASSY		62	4-039-357-01	SCREW (3x8), (+) BV TAPPING	
53	4-386-710-11	CATCHER, PUSH	53-56	63	*A-1638-046-A	C BOARD, COMPLETE	
54	4-202-708-01	WINDOW, ORNAMENTAL		64	4-369-318-31	SPRING, TENSION	
55	4-202-709-01	BUTTON, POWER		65	*A-162-247-21	COIL, DEGAUSSING	
56	4-329-112-51	SPRING		66	4-034-296-01	HOLDER, DGC	
57	X-451-321-05	CRT SD-191 (A68JYL61X)		67	4-036-188-01	SCREW (M), PT	
58	3-704-495-01	SPACER, DY		68	4-308-870-00	CLIP LEAD WIRE	
59	X-451-312-61	DEFLECTION VOLK (T29PXA)		69	1-452-032-00	MAGNET, DISK; 10MMØ	
60	X-452-509-41	NECK ASSY, CRT (MA-308)		70	1-452-094-00	MAGNET, ROTATABLE DISK; 15MMØ	
				71	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
				72	3-701-007-00	BAND BINDING	

## **ELECTRICAL PARTS LIST**

SECTION 7

The components identified by shading and marked **A** are critical for safety.  
Replace only with the part number specified.

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
  - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

## CAPACITORS COILS

## COILS

MMH : mH, uH : mH

**F1 A**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK	
	*1-652-271-11	F1 BOARD	*****	C18	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
				C19	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
		< CONNECTOR >		C21	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
CN603	△ *1-580-844-11	PIN, CONNECTOR (POWER)		C22	1-164-005-11	CERAMIC CHIP 0.47MF	25V	
CN604	△ *1-695-292-11	PIN, CONNECTOR (POWER)		C23	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
		< FUSE >		C24	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
F601	A 1-576-232-21	FUSE (H.B.C.) 5A/250V		C30	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
	A 1-533-230-11	HOLDER, FUSE; F601		C101	1-124-916-11	ELECT 22MF (KV-X2901D/X2901A/X2903E/X2902U X2902L/X2901K)	20%	50V
		< SWITCH >			1-124-927-11	ELECT 4.7MF (KV-X2900B/X2901B)	20%	50V
S601	A 1-571-433-11	SWITCH, PUSH (AC POWER)		C102	1-124-917-11	ELECT 33MF	20%	50V
		*****		C103	1-124-917-11	ELECT 33MF	20%	50V
	*****			C104	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
	*****			C105	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
	*****			C106	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
	*A-1632-174-A	A BOARD, COMPLETE (KV-X2901D)	*****	C107	1-164-346-11	CERAMIC CHIP 1MF		16V
		*****		C108	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
	*A-1632-193-A	A BOARD, COMPLETE (KV-X2901A)	*****	C109	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
		*****		C112	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
	*A-1632-198-A	A BOARD, COMPLETE (KV-X2900B)	*****	C113	1-124-477-11	ELECT 47MF	20%	16V
		*****		C114	1-164-346-11	CERAMIC CHIP 1MF		16V
	*A-1632-196-A	A BOARD, COMPLETE (KV-X2901B)	*****	C115	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
		*****		C117	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
	*A-1632-194-A	A BOARD, COMPLETE (KV-X2903E)	*****	C118	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
		*****		C119	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
	*A-1632-199-A	A BOARD, COMPLETE (KV-X2902U)	*****	C120	1-164-337-11	CERAMIC CHIP 2.2MF		16V
		*****		C121	1-124-477-11	ELECT 47MF	20%	16V
	*A-1632-195-A	A BOARD, COMPLETE (KV-X2902L)	*****	C122	1-124-477-11	ELECT 47MF	20%	16V
		*****		C123	1-163-090-00	CERAMIC CHIP 7PF	0.25PF	50V
	*A-1632-197-A	A BOARD, COMPLETE (KV-X2901K)	*****	C124	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
		*****		C125	1-164-337-11	CERAMIC CHIP 2.2MF		16V
		< CAPACITOR >		C126	1-164-337-11	CERAMIC CHIP 2.2MF		16V
C1	1-163-009-11	CERAMIC CHIP 0.001MF	10%	C127	1-124-917-11	ELECT 33MF	20%	50V
C2	1-163-009-11	CERAMIC CHIP 0.001MF	10%	C128	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C3	1-124-907-11	ELECT 10MF	20%	C129	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C4	1-164-004-11	CERAMIC CHIP 0.1MF	10%	C130	1-216-295-00	METAL GLAZE 0	5%	1/10W
C7	1-163-009-11	CERAMIC CHIP 0.001MF	10%	C131	1-124-477-11	ELECT 47MF	20%	16V
C8	1-164-232-11	CERAMIC CHIP 0.01MF	10%	C132	1-124-477-11	ELECT 47MF	20%	16V
C9	1-163-009-11	CERAMIC CHIP 0.001MF	10%	C134	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C10	1-163-009-11	CERAMIC CHIP 0.001MF	10%	C135	1-124-477-11	ELECT 47MF	20%	16V
C11	1-163-009-11	CERAMIC CHIP 0.001MF	10%	C137	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
C12	1-164-004-11	CERAMIC CHIP 0.1MF	10%	C142	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
C13	1-126-101-11	ELECT 100MF	20%					
C16	1-163-809-11	CERAMIC CHIP 0.047MF	10%					
C17	1-164-232-11	CERAMIC CHIP 0.01MF	10%					

# A

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C143	1-126-101-11	ELECT 100MF (KV-X2900B/X2901B)	20% 16V	C323	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C144	1-164-346-11	CERAMIC CHIP 1MF (KV-X2900B/X2901B)	16V	C324	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C145	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	C325	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C146	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	C326	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C149	1-216-295-00	METAL GLAZE 0 5%	1/10W	C327	1-136-165-00	FILM 0.1MF	5% 50V
C150	1-124-477-11	ELECT 47MF	20% 16V	C328	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C151	1-124-477-11	ELECT 47MF	20% 16V	C329	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C152	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C330	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C154	1-163-123-00	CERAMIC CHIP 180PF (KV-X2901D/X2901A/X2903E/X2901K)	5% 50V	C331	1-165-320-11	CERAMIC CHIP 0.47MF	10% 16V
	1-163-121-00	CERAMIC CHIP 150PF (KV-X2900B/X2901B)	5% 50V	C332	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C155	1-163-109-00	CERAMIC CHIP 47PF (KV-X2901D/X2901A/X2903E/X2901K)	5% 50V	C333	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
	1-163-105-00	CERAMIC CHIP 33PF (KV-X2900B/X2901B)	5% 50V	C334	1-163-016-00	CERAMIC CHIP 0.0039MF	10% 50V
C156	1-163-099-00	CERAMIC CHIP 18PF (KV-X2901D/X2901A/X2903E/X2901K)	5% 50V	C335	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C336	1-126-101-11	ELECT 100MF	20% 16V
				C337	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V
C201	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C338	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C202	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	C339	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C203	1-124-907-11	ELECT 10MF	20% 50V	C342	1-124-907-11	ELECT 10MF	20% 50V
C204	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V	C346	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C205	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C347	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C206	1-164-346-11	CERAMIC CHIP 1MF	16V	C348	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C207	1-137-613-11	FILM 0.0018MF	2% 100V (KV-X2901D/X2901A/X2900B/X2901B X2903E/X2901K)	C349	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C208	1-164-346-11	CERAMIC CHIP 1MF	16V	C350	1-165-320-11	CERAMIC CHIP 0.47MF	10% 16V
				C351	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C352	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C209	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C353	1-124-477-11	ELECT 47MF	20% 16V
C210	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C355	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C211	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C359	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C212	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C361	1-124-907-11	ELECT 10MF	20% 50V
C215	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V	C362	1-124-907-11	ELECT 10MF	20% 50V
C216	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V	C383	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C219	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V	C401	1-124-477-11	ELECT 47MF	20% 16V
C220	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V	C402	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C221	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C403	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C222	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C404	1-124-477-11	ELECT 47MF	20% 16V
C225	1-130-489-00	FILM 0.033MF	5% 50V	C406	1-124-907-11	ELECT 10MF	20% 50V
C226	1-130-489-00	FILM 0.033MF	5% 50V	C409	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C227	1-163-020-00	CERAMIC CHIP 0.0082MF	10% 50V	C410	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C228	1-163-020-00	CERAMIC CHIP 0.0082MF	10% 50V	C411	1-124-477-11	ELECT 47MF	20% 16V
C305	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C418	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C306	1-126-101-11	ELECT 100MF	20% 16V	C420	1-216-295-00	METAL GLAZE 0 5%	1/10W
C307	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C421	1-124-917-11	ELECT 33MF	20% 50V
C308	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C422	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C309	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C423	1-124-477-11	ELECT 47MF	20% 16V
C310	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C425	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C311	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C426	1-164-346-11	CERAMIC CHIP 1MF	16V
C312	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C427	1-124-477-11	ELECT 47MF	20% 16V
C313	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C428	1-164-346-11	CERAMIC CHIP 1MF	16V
C314	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C429	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C315	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C430	1-124-477-11	ELECT 47MF	20% 16V
C316	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C431	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C318	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C432	1-124-477-11	ELECT 47MF	20% 16V
C320	1-124-477-11	ELECT 47MF	20% 16V	C433	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C321	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C434	1-164-346-11	CERAMIC CHIP 1MF	16V
C322	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C435	1-126-101-11	ELECT 100MF	20% 16V

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK					
< C1002 - C1033 FITTED ON > <KV-X2901D/X2901A/X2901B/X2903E> <X2902U/X2902L/X2901K>												
C1002	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	C1136	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1003	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	C1137	1-163-095-00	CERAMIC CHIP 12PF	5% 50V				
C1004	1-163-097-00	CERAMIC CHIP 15PF	5%	50V	< FILTER >							
C1005	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	CF101	0-550-400-00	EFCV 4045 A4 (KV-X2901D/X2901A/X2900B/X2901B X2903E/X2901K)					
C1007	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	CF102	1-404-134-00	TRAP, CERAMIC (5.5MHZ) (KV-X2901D/X2901A/X2903E/X2901K)					
C1008	1-163-125-00	CERAMIC CHIP 220PF	5%	50V		1-409-430-11	TRAP, CERAMIC (KV-X2900B/X2901B)					
C1009	1-163-097-00	CERAMIC CHIP 15PF	5%	50V		1-409-333-00	TRAP, CERAMIC (6.0MHZ) (KV-X2902U/X2902L)					
C1011	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	CF103	0-550-808-10	SFE 5.5 MC2 (KV-X2901D/X2901A/X2900B/X2901B X2903E/X2901K)					
C1013	1-164-346-11	CERAMIC CHIP 1MF		16V	CF104	1-567-101-11	FILTER, CERAMIC (KV-X2901D/X2901K)					
C1015	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V		1-567-100-00	FILTER, CERAMIC (KV-X2900B/X2901B)					
C1016	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	CF106	0-550-809-10	SFE 5.75 MC2 (KV-X2901D/X2901A/X2900B/X2901B X2903E/X2901K)					
C1018	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	SWF101	1-579-273-11	FILTER, SURFACE WAVE					
C1019	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	SWF102	1-760-329-11	FILTER, SURFACE WAVE (KV-X2901D/X2901A/X2903E/X2902U X2902L/X2901K)					
C1020	1-124-916-11	ELECT 22MF	20%	50V		1-760-244-11	FILTER, SURFACE WAVE (KV-X2900B/X2901B)					
C1021	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	< CONNECTOR >							
C1024	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	CN001	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P					
C1025	1-124-477-11	ELECT 47MF	20%	16V	CN002	*1-568-882-51	PIN, CONNECTOR 7P					
C1026	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	CN003	*1-568-879-11	PIN, CONNECTOR 4P					
C1027	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	< DIODE >							
C1028	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D2	8-719-421-24	DIODE MA8039-H					
C1029	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D6	8-719-047-41	DIODE UMZ12N-T146					
C1030	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D7	8-719-041-97	DIODE MA113-TX					
C1031	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D9	8-719-041-97	DIODE MA113-TX					
C1032	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D11	8-719-041-97	DIODE MA113-TX					
C1033	1-124-907-11	ELECT 10MF	20%	50V	D101	8-719-977-81	DIODE DTZ338					
< C1101 - C1137 FITTED ON > <KV-X2903E/X2902U/X2902L>												
C1101	1-163-131-00	CERAMIC CHIP 390PF	5%	50V	D102	8-719-914-43	DIODE DAN202K-T-147 (KV-X2900B/X2901B)					
C1102	1-163-093-00	CERAMIC CHIP 10PF	5%	50V	D103	8-719-914-43	DIODE DAN202K-T-147 (KV-X2901D/X2900B/X2901B/X2901K)					
C1103	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D201	8-719-800-76	DIODE DA204K-T-147 (KV-X2901D/X2901A/X2900B/X2901B X2903E/X2901K)					
C1104	1-124-907-11	ELECT 10MF	20%	50V	D301	8-719-041-97	DIODE MA113-TX					
C1105	1-124-907-11	ELECT 10MF	20%	50V	D302	8-719-041-97	DIODE MA113-TX					
C1106	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D303	8-719-041-97	DIODE MA113-TX					
C1107	1-124-477-11	ELECT 47MF	20%	16V	D304	8-719-041-97	DIODE MA113-TX					
C1108	1-124-907-11	ELECT 10MF	20%	50V	D305	8-719-041-97	DIODE MA113-TX					
C1109	1-165-320-11	CERAMIC CHIP 0.47MF	10%	16V	D314	8-719-047-16	DIODE BAS216					
C1110	1-164-489-11	CERAMIC CHIP 0.22MF	10%	16V	D380	8-719-041-97	DIODE MA113-TX					
C1111	1-164-489-11	CERAMIC CHIP 0.22MF	10%	16V	D401	8-719-047-41	DIODE UMZ12N-T146					
C1112	1-164-489-11	CERAMIC CHIP 0.22MF	10%	16V	D402	8-719-047-41	DIODE UMZ12N-T146					
C1113	1-163-137-00	CERAMIC CHIP 680PF	5%	50V	D404	8-719-047-41	DIODE UMZ12N-T146					
C1117	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D404	8-719-047-41	DIODE UMZ12N-T146					
C1118	1-124-477-11	ELECT 47MF	20%	16V	D404	8-719-047-41	DIODE UMZ12N-T146					
C1119	1-124-477-11	ELECT 47MF	20%	16V	D405	8-719-047-41	DIODE UMZ12N-T146					
C1120	1-163-137-00	CERAMIC CHIP 680PF	5%	50V								
C1122	1-124-477-11	ELECT 47MF	20%	16V								
C1123	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V								
C1124	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V								
C1125	1-165-320-11	CERAMIC CHIP 0.47MF	10%	16V								
C1126	1-163-117-00	CERAMIC CHIP 100PF	5%	50V								
C1127	1-163-117-00	CERAMIC CHIP 100PF	5%	50V								
C1128	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V								
C1129	1-162-568-11	CERAMIC CHIP 0.33MF		25V								
C1130	1-124-903-11	ELECT 1MF	20%	50V								
C1131	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V								
C1132	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V								
C1133	1-124-477-11	ELECT 47MF	20%	16V								
C1134	1-124-907-11	ELECT 10MF	20%	50V								
C1135	1-163-125-00	CERAMIC CHIP 220PF	5%	50V								

# A

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D406	8-719-047-41	DIODE UMZ12N-T146		L108	1-412-008-11	INDUCTOR CHIP 15UH (KV-X2901D/X2901A/X2903E/X2901K)	
D407	8-719-047-41	DIODE UMZ12N-T146			1-412-011-31	INDUCTOR CHIP 27UH (KV-X2900B/X2901B)	
D408	8-719-047-41	DIODE UMZ12N-T146		L109	1-410-214-31	INDUCTOR CHIP 68UH	
D409	8-719-047-41	DIODE UMZ12N-T146		L110	1-412-004-31	INDUCTOR CHIP 6.8UH	
D410	8-719-047-41	DIODE UMZ12N-T146		L201	1-410-067-21	INDUCTOR 4.7MMH (KV-X2901D/X2901A/X2900B/X2901B X2903E/X2901K)	
D411	8-719-047-41	DIODE UMZ12N-T146		L304	1-412-006-31	INDUCTOR CHIP 10UH	
D1002	8-719-023-25	DIODE MA704WK (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)		L305	1-412-006-31	INDUCTOR CHIP 10UH	
D1003	8-719-976-84	DIODE DTZ3.6A (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)		L306	1-412-006-31	INDUCTOR CHIP 10UH	
D1101	8-719-041-97	DIODE MA113-TX (KV-X2903E/X2902U/X2902L)		L307	1-408-609-41	INDUCTOR 33UH	
D1102	8-719-820-71	DIODE 1SV214 (KV-X2903E/X2902U/X2902L)		L308	1-408-424-00	INDUCTOR 180UH	
		< IC >		L309	1-408-424-00	INDUCTOR 180UH	
IC001	8-752-851-53	IC CXP85232-SV4839		L310	1-408-407-00	INDUCTOR 6.8UH	
IC002	8-759-252-11	IC CAT24C16J-TE13		L401	1-410-214-31	INDUCTOR CHIP 68UH	
IC101	8-759-193-14	IC TDA9814T		L1001	1-408-419-00	INDUCTOR 68UH (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)	
IC201	8-759-252-14	IC TDA6612-X-GEG (KV-X2901D/X2901A/X2900B/X2901B X2903E/X2901K)		L1002	1-408-419-00	INDUCTOR 68UH (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)	
	8-759-252-12	IC TDA6622-X-GEG (KV-X2902U/X2902L)		L1101	1-412-004-31	INDUCTOR CHIP 6.8UH (KV-X2903E/X2902U/X2902L)	
IC202	8-759-514-57	IC BA7046F		T101	1-403-686-21	COIL	
IC301	8-759-251-57	IC TDA8366T					
IC302	8-759-086-97	IC TDA4661T/V2					
IC303	8-759-251-56	IC TDA8395T (KV-X2901D/X2900B/X2901B/X2901K)		Q4	8-729-901-01	TRANSISTOR DTC144EK	
				Q5	8-729-216-22	TRANSISTOR 2SA1162-G	
				Q8	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q11	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q12	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC401	8-752-069-53	IC CXA1855Q-T6					
IC1001	8-759-252-08	IC CF72306DW-R (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)		Q14	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC1002	8-759-252-10	IC CF70200FN-R (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)		Q102	8-729-104-80	TRANSISTOR 2SC3355	
				Q103	8-729-900-53	TRANSISTOR DTC114EK (KV-X2900B/X2901B)	
IC1003	8-759-300-71	IC HD14053BFP (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)		Q104	8-729-900-53	TRANSISTOR DTC114EK	
IC1101	8-759-251-58	IC SAA7283T (KV-X2903E/X2902U/X2902L)		Q105	8-729-900-53	TRANSISTOR DTC114EK	
				Q107	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q108	8-729-907-26	TRANSISTOR IMX1	
				Q109	8-729-907-26	TRANSISTOR IMX1	
				Q114	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q116	8-729-901-01	TRANSISTOR DTC144EK (KV-X2901D/X2900B/X2901B/X2901K)	
J401	1-766-296-11	CONNECTOR, DUAL SCART		Q117	8-729-901-01	TRANSISTOR DTC144EK (KV-X2901D/X2900B/X2901B/X2901K)	
		< COIL >		Q120	8-729-216-22	TRANSISTOR 2SA1162-G	
L1	1-412-010-41	INDUCTOR CHIP 22UH		Q121	8-729-216-22	TRANSISTOR 2SA1162-G (KV-X2900B/X2901B)	
L101	1-408-609-41	INDUCTOR 33UH		Q123	8-729-901-01	TRANSISTOR DTC144EK	
L102	1-410-214-31	INDUCTOR CHIP 68UH		Q124	8-729-901-01	TRANSISTOR DTC144EK	
L103	1-408-419-00	INDUCTOR 68UH		Q125	8-729-900-53	TRANSISTOR DTC114EK (KV-X2900B/X2901B)	
L105	1-412-008-11	INDUCTOR CHIP 15UH (KV-X2901D/X2901A/X2903E/X2902U X2902L/X2901K)		Q130	8-729-920-74	TRANSISTOR 2SC2412K-QR	
	1-412-005-11	INDUCTOR CHIP 8.2UH (KV-X2900B/X2901B)		Q131	8-729-216-22	TRANSISTOR 2SA1162-G	
L106	1-412-011-31	INDUCTOR CHIP 27UH		Q132	8-729-920-74	TRANSISTOR 2SC2412K-QR	
L107	1-410-985-11	INDUCTOR CHIP 0.22UH		Q133	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q304	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q312	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q313	8-729-920-74	TRANSISTOR 2SC2412K-QR	

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q314	8-729-900-53	TRANSISTOR DTC114EK		JR124	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q380	8-729-920-74	TRANSISTOR 2SC2412K-QR		JR125	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q381	8-729-920-74	TRANSISTOR 2SC2412K-QR		JR126	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q401	8-729-920-74	TRANSISTOR 2SC2412K-QR		JR127	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q402	8-729-920-74	TRANSISTOR 2SC2412K-QR		JR201	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q403	8-729-920-74	TRANSISTOR 2SC2412K-QR		JR202	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q404	8-729-920-74	TRANSISTOR 2SC2412K-QR		JR401	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q1001	8-729-920-74	TRANSISTOR 2SC2412K-QR (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)		JR402	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q1003	8-729-216-22	TRANSISTOR 2SA1162-G (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)	< RESISTOR >	JR403	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR3	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR408	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR8	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR1004	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR9	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR13	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR10	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR14	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR12	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR15	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR13	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR16	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR14	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR17	1-216-295-00	METAL GLAZE 0	5% 1/10W
R21	1-216-033-00	METAL GLAZE 220	5% 1/10W	JR18	1-216-295-00	METAL GLAZE 0	5% 1/10W
R24	1-216-049-00	METAL GLAZE 1K	5% 1/10W	JR19	1-216-295-00	METAL GLAZE 0	5% 1/10W
R25	1-216-073-00	METAL GLAZE 10K	5% 1/10W	JR20	1-216-296-91	METAL GLAZE 0	5% 1/8W
R26	1-216-025-00	METAL GLAZE 100	5% 1/10W	JR22	1-216-296-91	METAL GLAZE 0	5% 1/8W
R27	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	JR25	1-216-295-00	METAL GLAZE 0	5% 1/10W
R29	1-216-049-00	METAL GLAZE 1K	5% 1/10W	JR28	1-216-296-91	METAL GLAZE 0	5% 1/8W
R31	1-216-049-00	METAL GLAZE 1K	5% 1/10W	JR53	1-216-296-91	METAL GLAZE 0	5% 1/8W
R33	1-216-063-00	METAL GLAZE 3.9K	5% 1/10W	JR54	1-216-296-91	METAL GLAZE 0	5% 1/8W
R35	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	JR55	1-216-296-91	METAL GLAZE 0	5% 1/8W
R40	1-216-045-00	METAL GLAZE 680	5% 1/10W	JR56	1-216-296-91	METAL GLAZE 0	5% 1/8W
R41	1-216-073-00	METAL GLAZE 10K	5% 1/10W	JR57	1-216-296-91	METAL GLAZE 0	5% 1/8W
R43	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR58	1-216-296-91	METAL GLAZE 0	5% 1/8W
R44	1-216-121-00	METAL GLAZE 1M	5% 1/10W	JR59	1-216-296-91	METAL GLAZE 0	5% 1/8W
R46	1-216-049-00	METAL GLAZE 1K	5% 1/10W	JR60	1-216-296-91	METAL GLAZE 0	5% 1/8W
R49	1-216-041-00	METAL GLAZE 470	5% 1/10W	JR61	1-216-296-91	METAL GLAZE 0	5% 1/8W
R50	1-216-049-00	METAL GLAZE 1K	5% 1/10W	JR62	1-216-296-91	METAL GLAZE 0	5% 1/8W
R59	1-216-121-00	METAL GLAZE 1M	5% 1/10W	JR63	1-216-296-91	METAL GLAZE 0	5% 1/8W
R60	1-216-025-00	METAL GLAZE 100	5% 1/10W	JR64	1-216-296-91	METAL GLAZE 0	5% 1/8W
R61	1-216-025-00	METAL GLAZE 100	5% 1/10W	JR65	1-216-296-91	METAL GLAZE 0	5% 1/8W
R70	1-216-049-00	METAL GLAZE 1K	5% 1/10W	JR66	1-216-296-91	METAL GLAZE 0	5% 1/8W
R71	1-216-081-00	METAL GLAZE 22K	5% 1/10W	JR67	1-216-296-91	METAL GLAZE 0	5% 1/8W
R72	1-216-081-00	METAL GLAZE 22K	5% 1/10W	JR68	1-216-296-91	METAL GLAZE 0	5% 1/8W
R73	1-216-025-00	METAL GLAZE 100	5% 1/10W	JR69	1-216-296-91	METAL GLAZE 0	5% 1/8W
R75	1-216-081-00	METAL GLAZE 22K	5% 1/10W	JR70	1-216-296-91	METAL GLAZE 0	5% 1/8W
R76	1-216-073-00	METAL GLAZE 10K	5% 1/10W	JR71	1-216-296-91	METAL GLAZE 0	5% 1/8W
R77	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	JR72	1-216-296-91	METAL GLAZE 0	5% 1/8W
R78	1-216-037-00	METAL GLAZE 330	5% 1/10W	JR73	1-216-296-91	METAL GLAZE 0	5% 1/8W
R79	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	JR74	1-216-296-91	METAL GLAZE 0	5% 1/8W
R82	1-216-073-00	METAL GLAZE 10K	5% 1/10W	JR113	1-216-295-00	METAL GLAZE 0	5% 1/10W
R83	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	JR120	1-216-295-00	METAL GLAZE 0	5% 1/10W
R84	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	JR122	1-216-295-00	METAL GLAZE 0	5% 1/10W
R85	1-216-025-00	METAL GLAZE 100	5% 1/10W	JR123	1-216-295-00	METAL GLAZE 0	5% 1/10W
R86	1-216-025-00	METAL GLAZE 100	5% 1/10W	R89	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R87	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R90	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R88	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	R91	1-216-049-00	METAL GLAZE 1K	5% 1/10W

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REF.NO.	PART NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK	
R92	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R152	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R93	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R153	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R94	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R154	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R95	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R155	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R96	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	R156	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R97	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R157	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R99	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R158	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
								(KV-X2901D/X2901A/X2903E/X2901K)				
R101	1-216-081-00	METAL GLAZE	22K	5%	1/10W	R160	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R102	1-216-083-00	METAL GLAZE	27K	5%	1/10W	R161	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R103	1-216-077-00	METAL GLAZE	15K	5%	1/10W	R162	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R104	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R163	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R105	1-216-025-00	METAL GLAZE	100	5%	1/10W	R164	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R106	1-216-025-00	METAL GLAZE	100	5%	1/10W	R165	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R107	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	R166	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R108	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	R170	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R109	1-216-176-00	METAL GLAZE	120	5%	1/8W	R171	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R110	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R172	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R111	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R173	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R112	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R174	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R113	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R180	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R114	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R182	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R115	1-218-755-11	METAL CHIP	130K	0.50%	1/10W	R183	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R116	1-216-113-00	METAL GLAZE	470K	5%	1/10W	R185	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R117	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R186	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R118	1-216-107-00	METAL GLAZE	270K	5%	1/10W	R192	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R119	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R195	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R120	1-216-037-00	METAL GLAZE	330	5%	1/10W	R196	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R121	1-216-037-00	METAL GLAZE	330	5%	1/10W	R197	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R122	1-216-089-91	METAL GLAZE	47K	5%	1/10W	R198	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R123	1-216-089-91	METAL GLAZE	47K	5%	1/10W	R199	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R125	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		1-216-041-00	METAL GLAZE	470	5%	1/10W	
R126	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		(KV-X2900B/X2901B)					
R127	1-216-041-00	METAL GLAZE	470	5%	1/10W	R201	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R128	1-216-043-00	METAL GLAZE	560	5%	1/10W	R202	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R130	1-216-043-00	METAL GLAZE	560	5%	1/10W	R203	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R131	1-216-043-00	METAL GLAZE	560	5%	1/10W	R204	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R134	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R205	1-216-025-00	METAL GLAZE	100	5%	1/10W	
		(KV-X2901D/X2900B/X2901B/X2901K)				R206	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R135	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R207	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R136	1-216-085-00	METAL GLAZE	33K	5%	1/10W	R210	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R137	1-216-085-00	METAL GLAZE	33K	5%	1/10W	R211	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R139	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	R213	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R140	1-216-093-00	METAL GLAZE	68K	5%	1/10W	R311	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R141	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	R313	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R142	1-216-093-00	METAL GLAZE	68K	5%	1/10W	R314	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R143	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R315	1-216-025-00	METAL GLAZE	100	5%	1/10W	
		(KV-X2901D/X2900B/X2901B/X2901K)				R316	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R144	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	R317	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R145	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	R318	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R146	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R319	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R147	1-216-035-00	METAL GLAZE	270	5%	1/10W	R320	1-216-025-00	METAL GLAZE	100	5%	1/10W	
		(KV-X2901D/X2901A/X2903E/X2902U X2902L/X2901K)				R321	1-216-025-00	METAL GLAZE	100	5%	1/10W	
	1-216-029-00	METAL GLAZE	150	5%	1/10W		R322	1-216-085-00	METAL GLAZE	33K	5%	1/10W
		(KV-X2900B/X2901B)				R323	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R148	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R325	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R149	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R326	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R151	1-216-081-00	METAL GLAZE	22K	5%	1/10W	R327	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
						R328	1-216-295-00	METAL GLAZE	0	5%	1/10W	



REF.NO.	PART NO.	DESCRIPTION		REMARK		REF.NO.	PART NO.	DESCRIPTION		REMARK	
R329	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R437	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R330	1-216-295-00	METAL GLAZE	0	5%	1/10W	R438	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R331	1-216-295-00	METAL GLAZE	0	5%	1/10W	R439	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R332	1-216-295-00	METAL GLAZE	0	5%	1/10W	R440	1-216-025-00	METAL GLAZE	100	5%	1/10W
R333	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	R441	1-216-022-00	METAL GLAZE	75	5%	1/10W
R340	1-216-097-00	METAL GLAZE	100K	5%	1/10W	R442	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R341	1-216-083-00	METAL GLAZE	27K	5%	1/10W	R443	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R342	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R444	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R352	1-216-123-11	METAL GLAZE	1.2M	5%	1/10W	R445	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R354	1-216-025-00	METAL GLAZE	100	5%	1/10W	R446	1-216-025-00	METAL GLAZE	100	5%	1/10W
R355	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R447	1-216-025-00	METAL GLAZE	100	5%	1/10W
R356	1-216-025-00	METAL GLAZE	100	5%	1/10W	R448	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R364	1-216-041-00	METAL GLAZE	470	5%	1/10W	R449	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R365	1-216-025-00	METAL GLAZE	100	5%	1/10W	R454	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R370	1-216-033-00	METAL GLAZE	220	5%	1/10W	R458	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R371	1-216-033-00	METAL GLAZE	220	5%	1/10W	R461	1-216-022-00	METAL GLAZE	75	5%	1/10W
R372	1-216-033-00	METAL GLAZE	220	5%	1/10W	R464	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R373	1-216-041-00	METAL GLAZE	470	5%	1/10W	R465	1-216-025-00	METAL GLAZE	100	5%	1/10W
R380	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R466	1-216-041-00	METAL GLAZE	470	5%	1/10W
R381	1-216-025-00	METAL GLAZE	100	5%	1/10W	R473	1-216-022-00	METAL GLAZE	75	5%	1/10W
R382	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	R474	1-216-009-00	METAL GLAZE	22	5%	1/10W
R383	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R482	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R384	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	R483	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R385	1-216-049-00	METAL GLAZE	1K	5%	1/10W	< R1001 - R1028 FITTED ON > < KV-X2901D/X2901A/X2901B/X2903E> < X2902U/X2902L/X2901K>					
R386	1-216-023-00	METAL GLAZE	82	5%	1/10W	R1001	1-216-295-00	METAL GLAZE	0	5%	1/10W
R387	1-216-023-00	METAL GLAZE	82	5%	1/10W	R1002	1-216-025-00	METAL GLAZE	100	5%	1/10W
R388	1-216-033-00	METAL GLAZE	220	5%	1/10W	R1004	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R389	1-216-033-00	METAL GLAZE	220	5%	1/10W	R1005	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R390	1-216-109-00	METAL GLAZE	330K	5%	1/10W	R1008	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R392	1-216-091-00	METAL GLAZE	56K	5%	1/10W	R1009	1-216-025-00	METAL GLAZE	100	5%	1/10W
R393	1-216-089-91	METAL GLAZE	47K	5%	1/10W	R1010	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R401	1-216-039-00	METAL GLAZE	390	5%	1/10W	R1011	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R402	1-216-089-91	METAL GLAZE	47K	5%	1/10W	R1012	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R403	1-216-039-00	METAL GLAZE	390	5%	1/10W	R1014	1-216-025-00	METAL GLAZE	100	5%	1/10W
R404	1-216-089-91	METAL GLAZE	47K	5%	1/10W	R1015	1-216-025-00	METAL GLAZE	100	5%	1/10W
R405	1-216-039-00	METAL GLAZE	390	5%	1/10W	R1016	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R406	1-216-039-00	METAL GLAZE	390	5%	1/10W	R1019	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R408	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	R1020	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R409	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	R1021	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R410	1-216-025-00	METAL GLAZE	100	5%	1/10W	R1023	1-216-023-00	METAL GLAZE	82	5%	1/10W
R413	1-216-033-00	METAL GLAZE	220	5%	1/10W	R1024	1-216-023-00	METAL GLAZE	82	5%	1/10W
R415	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	R1025	1-216-035-00	METAL GLAZE	270	5%	1/10W
R417	1-216-033-00	METAL GLAZE	220	5%	1/10W	R1026	1-216-035-00	METAL GLAZE	270	5%	1/10W
R419	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	R1027	1-216-035-00	METAL GLAZE	270	5%	1/10W
R420	1-216-009-00	METAL GLAZE	22	5%	1/10W	R1028	1-216-023-00	METAL GLAZE	82	5%	1/10W
R421	1-216-113-00	METAL GLAZE	470K	5%	1/10W	< R1101 - R1118 FITTED ON > < KV-X2903E/X2902U/X2902L>					
R422	1-216-022-00	METAL GLAZE	75	5%	1/10W	R425	1-216-022-00	METAL GLAZE	75	5%	1/10W
R423	1-216-093-00	METAL GLAZE	68K	5%	1/10W	R426	1-216-025-00	METAL GLAZE	100	5%	1/10W
R424	1-216-113-00	METAL GLAZE	470K	5%	1/10W	R427	1-216-188-00	METAL GLAZE	390	5%	1/8W
R425	1-216-022-00	METAL GLAZE	75	5%	1/10W	R429	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R426	1-216-025-00	METAL GLAZE	100	5%	1/10W	R430	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R427	1-216-188-00	METAL GLAZE	390	5%	1/8W	R431	1-216-188-00	METAL GLAZE	390	5%	1/8W
R429	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	R432	1-216-039-00	METAL GLAZE	390	5%	1/10W
R430	1-216-089-91	METAL GLAZE	47K	5%	1/10W	R433	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R431	1-216-188-00	METAL GLAZE	390	5%	1/8W	R434	1-216-025-00	METAL GLAZE	100	5%	1/10W
R432	1-216-039-00	METAL GLAZE	390	5%	1/10W	R435	1-216-039-00	METAL GLAZE	390	5%	1/10W
R433	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	R436	1-216-022-00	METAL GLAZE	75	5%	1/10W
R434	1-216-025-00	METAL GLAZE	100	5%	1/10W	R437	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R435	1-216-039-00	METAL GLAZE	390	5%	1/10W	R438	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R436	1-216-022-00	METAL GLAZE	75	5%	1/10W	R439	1-220-149-11	METAL GLAZE	2.2	10%	1/2W
R437	1-216-049-00	METAL GLAZE	100	5%	1/10W	R440	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R438	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R441	1-216-037-00	METAL GLAZE	330	5%	1/10W
R439	1-220-149-11	METAL GLAZE	2.2	10%	1/2W	R442	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R440	1-216-097-00	METAL GLAZE	100K	5%	1/10W	R443	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R441	1-216-037-00	METAL GLAZE	330	5%	1/10W	R444	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R442	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	R445	1-220-238-11	METAL GLAZE	10	5%	1/4W

**A**      **C**

Components denoted by shading and marked **A** are critical for safety.  
Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R1111	1-216-025-00	METAL GLAZE	100 5% 1/10W			< DIODE >	
R1112	1-216-025-00	METAL GLAZE	100 5% 1/10W	D701	8-719-110-14	DIODE RD9.1ESB3	
R1113	1-216-117-00	METAL GLAZE	680K 5% 1/10W	D702	8-719-901-33	DIODE 1SS133	
R1114	1-216-158-00	METAL GLAZE	22 5% 1/8W	D706	8-719-901-33	DIODE 1SS133	
R1115	1-216-121-00	METAL GLAZE	1M 5% 1/10W	D707	8-719-901-33	DIODE 1SS133	
R1116	1-216-081-00	METAL GLAZE	22K 5% 1/10W	D708	8-719-901-33	DIODE 1SS133	
R1117	1-216-073-00	METAL GLAZE	10K 5% 1/10W	D709	8-719-901-33	DIODE 1SS133	
R1118	1-220-149-11	METAL GLAZE	2.2 10% 1/2W	D710	8-719-901-33	DIODE 1SS133	
				D711	8-719-302-43	DIODE EL1Z	
				D713	8-719-901-33	DIODE 1SS133	
				J701	A 1-526-990-21	SOCKET, CRT	
						< COIL >	
RV102	1-241-765-11	RES, ADJ, CARBON 22K (KV-X2900B/X2901B)		L704	1-408-609-41	INDUCTOR 33UH	
						< TRANSISTOR >	
				Q702	8-729-173-38	TRANSISTOR 2SA733-K	
RA1	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)		Q703	8-729-906-70	TRANSISTOR BF871	
RA2	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)		Q704	8-729-200-17	TRANSISTOR 2SA1091-O	
RA3	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)		Q705	8-729-173-38	TRANSISTOR 2SA733-K	
RA7	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)		Q706	8-729-906-70	TRANSISTOR BF871	
RA8	1-239-412-11	NETWORK, RESISTOR (CHIP TYPE)					
RA9	1-239-412-11	NETWORK, RESISTOR (CHIP TYPE)		Q707	8-729-200-17	TRANSISTOR 2SA1091-O	
RA10	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)		Q708	8-729-173-38	TRANSISTOR 2SA733-K	
RA11	1-236-904-11	RESISTOR, NETWORK (CHIP TYPE)		Q709	8-729-906-70	TRANSISTOR BF871	
				Q710	8-729-200-17	TRANSISTOR 2SA1091-O	
						< RESISTOR >	
TU101	1-693-185-11	TUNER UV-916H (KV-X2901D/X2901A/X2900B/X2901B X2903E/X2902L/X2901K)		R704	1-216-486-00	METAL OXIDE 8.2K 5% 3W F	
	1-693-184-11	TUNER UV944C (KV-X2902U)		R705	1-202-824-00	SOLID 3.3K 10% 1/2W	
				R706	1-249-409-11	CARBON 220 5% 1/4W	
X2	1-579-063-21	VIBRATOR, CERAMIC		R707	1-249-408-11	CARBON 180 5% 1/4W	
X301	1-760-331-11	VIBRATOR, CRYSTAL		R708	1-249-399-11	CARBON 33 5% 1/4W	
X1001	1-567-495-11	OSCILLATOR, CRYSTAL (KV-X2901D/X2901A/X2901B X2903E/X2902U/X2902L/X2901K)					
X1101	1-579-689-21	VIBRATOR, CRYSTAL (KV-X2903E/X2902U/X2902L)		R709	1-202-844-00	SOLID 330K 10% 1/2W	
				R711	1-249-423-11	CARBON 3.3K 5% 1/4W	
				R712	1-202-824-00	SOLID 3.3K 10% 1/2W	
				R714	1-216-486-00	METAL OXIDE 8.2K 5% 3W F	
				R715	1-249-417-11	CARBON 1K 5% 1/4W	
	*A-1638-046-A	C BOARD, COMPLETE		R716	1-249-409-11	CARBON 220 5% 1/4W	
		*****		R717	1-249-408-11	CARBON 180 5% 1/4W	
				R718	1-202-814-11	SOLID 33K 10% 1/2W	
				R719	1-249-399-11	CARBON 33 5% 1/4W	
				R720	1-249-423-11	CARBON 3.3K 5% 1/4W	
C702	1-102-824-00	CERAMIC 470PF 5% 50V					
C703	1-102-824-00	CERAMIC 470PF 5% 50V		R722	1-202-848-00	SOLID 680K 10% 1/2W	
C704	1-102-116-00	CERAMIC 680PF 10% 50V		R723	1-249-417-11	CARBON 1K 5% 1/4W	
C706	1-102-116-00	CERAMIC 680PF 10% 50V		R724	1-202-846-00	SOLID 470K 10% 1/2W	
C707	1-162-116-00	CERAMIC 680PF 10% 2KV		R726	1-202-824-00	SOLID 3.3K 10% 1/2W	
C708	1-162-114-00	CERAMIC 0.0047MF 2KV		R727	1-249-409-11	CARBON 220 5% 1/4W	
C709	1-102-116-00	CERAMIC 680PF 10% 50V					
C710	1-123-947-00	ELECT 10MF 20% 250V		R728	1-216-350-11	METAL OXIDE 1.2 5% 1W F	
C712	1-102-824-00	CERAMIC 470PF 5% 50V		R729	1-249-408-11	CARBON 180 5% 1/4W	
C714	1-124-360-00	ELECT 1000MF 20% 16V		R730	1-249-399-11	CARBON 33 5% 1/4W	
C717	1-102-114-00	CERAMIC 470PF 10% 50V		R731	1-249-423-11	CARBON 3.3K 5% 1/4W	
C718	1-102-114-00	CERAMIC 470PF 10% 50V		R734	1-247-807-31	CARBON 100 5% 1/4W	
C719	1-102-114-00	CERAMIC 470PF 10% 50V					
				R736	1-216-486-00	METAL OXIDE 8.2K 5% 3W F	
				R739	1-249-417-11	CARBON 1K 5% 1/4W	
				R743	1-202-842-11	SOLID 220K 10% 1/2W	
CN702	1-695-915-11	TAB (CONTACT)					
CN703	*1-568-882-51	PIN, CONNECTOR 7P					

The components identified by shading and marked **A** are critical for safety.  
Replace only with the part number specified.

**C** **D**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK				
< VARIABLE RESISTOR >											
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M		C632	1-124-120-11	ELECT	220MF 20% 25V				
RV702	1-241-656-11	RES, ADJ, METAL FILM 110M		C633	A 1-107-564-11	FILM	0.22MF 20% 300V				
*****											
*A-1642-115-A D BOARD, COMPLETE											
*****											
	4-201-023-01	SPACER, INSULATING		C634	A 1-107-564-11	FILM	0.22MF 20% 300V				
	4-202-373-01	SPRING, IC		C635	A 1-107-564-11	FILM	0.22MF 20% 300V				
	4-812-134-00	RIVET NYLON, 3.5		C636	A 1-164-246-51	CERAMIC	0.0022MF 20% 400V				
< CAPACITOR >											
C502	1-102-824-00	CERAMIC	470PF 5% 50V	C639	1-136-165-00	FILM	0.1MF 5% 50V				
C503	1-136-165-00	FILM	0.1MF 5% 50V	C640	1-106-220-00	MYLAR	0.1MF 10% 100V				
C504	1-102-824-00	CERAMIC	470PF 5% 50V	C800	1-137-431-11	FILM	560PF 5% 50V				
C506	1-124-480-11	ELECT	470MF 20% 25V	C801	1-136-153-00	FILM	0.01MF 5% 50V				
C507	1-124-767-00	ELECT	2.2MF 20% 50V	C804	1-136-165-00	FILM	0.1MF 5% 50V				
C509	1-136-165-00	FILM	0.1MF 5% 50V	C805	1-106-395-00	MYLAR	0.15MF 10% 200V				
C510	1-124-911-11	ELECT	220MF 20% 50V	C806	1-108-704-11	MYLAR	0.1MF 10% 200V				
C511	1-136-202-11	FILM	0.33MF 5% 63V	C807	1-136-540-11	FILM	0.82MF 5% 200V				
C513	1-106-228-00	MYLAR	0.22MF 10% 100V	C810	1-123-944-00	ELECT	2.2MF 20% 250V				
C514	1-136-165-00	FILM	0.1MF 5% 50V	C811	1-102-212-00	CERAMIC	820PF 10% 500V				
C515	1-124-480-11	ELECT	470MF 20% 25V	C812	1-136-112-00	FILM	1.4MF 5% 200V				
C517	1-124-480-11	ELECT	470MF 20% 25V	C813	1-129-722-00	FILM	0.047MF 10% 630V				
C518	1-102-228-00	CERAMIC	470PF 10% 500V	C814	1-136-591-11	FILM	0.017MF 3% 1.4KV				
C519	1-102-228-00	CERAMIC	470PF 10% 500V	C815	1-136-562-11	MYLAR	0.0082MF 10% 400V				
C520	1-124-480-11	ELECT	470MF 20% 25V	C816	1-161-754-00	CERAMIC	0.001MF 10% 2KV				
C521	1-124-006-11	ELECT	10MF 20% 25V	C817	1-161-754-00	CERAMIC	0.001MF 10% 2KV				
C522	1-124-907-11	ELECT	10MF 20% 50V	C818	1-162-134-11	CERAMIC	470PF 10% 2KV				
C600	A 1-161-742-00	CERAMIC	0.0022MF 20% 400V	C819	1-136-208-11	FILM	0.068MF 10% 250V				
C601	A 1-161-964-91	CERAMIC	0.0047MF 20% 250V	C820	1-102-114-00	CERAMIC	470PF 10% 50V				
C602	A 1-161-964-91	CERAMIC	0.0047MF 20% 250V	C821	1-162-114-00	CERAMIC	0.0047MF 20% 2KV				
C603	1-125-318-00	ELECT (BLOCK)	220MF 20% 400V	C822	1-123-948-00	ELECT	22MF 20% 250V				
C604	1-124-122-11	ELECT	100MF 20% 50V	C824	1-123-024-21	ELECT	33MF 20% 160V				
C605	1-124-667-11	ELECT	10MF 20% 100V	C829	1-124-902-00	ELECT	0.47MF 20% 50V				
C606	1-162-318-11	CERAMIC	0.001MF 10% 500V	C830	1-124-927-11	ELECT	4.7MF 20% 50V				
C607	1-124-120-11	ELECT	220MF 20% 25V	C832	1-124-903-11	ELECT	1MF 20% 50V				
C608	0-551-803-10	CAP, 1500PF		C834	1-126-233-11	ELECT	22MF 20% 25V				
C611	1-102-228-00	CERAMIC	470PF 10% 500V	C835	1-162-318-11	CERAMIC	0.001MF 10% 500V				
C612	1-104-799-11	ELECT	22MF 20% 100V	C836	1-162-117-00	CERAMIC	100PF 10% 500V				
C613	1-124-347-00	ELECT	100MF 20% 160V	C906	1-124-910-11	ELECT	47MF 20% 50V				
C614	1-126-804-11	ELECT	100MF 20% 25V	C908	1-124-910-11	ELECT	47MF 20% 50V				
C615	1-126-376-11	ELECT	470MF 20% 25V	C909	1-124-903-11	ELECT	1MF 20% 50V				
C616	1-128-386-11	ELECT	1000MF 20% 25V	C910	1-137-393-91	FILM	0.01MF 5% 100V				
C617	1-124-556-11	ELECT	2200MF 20% 16V	C1200	1-136-165-00	FILM	0.1MF 5% 50V				
C618	1-136-165-00	FILM	0.1MF 5% 50V	C1201	1-136-165-00	FILM	0.1MF 5% 50V				
C619	1-102-228-00	CERAMIC	470PF 10% 500V	C1202	1-136-165-00	FILM	0.1MF 5% 50V				
C620	1-102-228-00	CERAMIC	470PF 10% 500V	C1203	1-136-169-00	FILM	0.22MF 5% 50V				
C621	1-136-165-00	FILM	0.1MF 5% 50V	C1204	1-136-169-00	FILM	0.22MF 5% 50V				
C622	1-124-790-11	ELECT	0.47MF 20% 100V	C1205	1-101-005-00	CERAMIC	0.022MF 5% 50V				
C623	1-124-120-11	ELECT	220MF 20% 25V	C1206	1-101-005-00	CERAMIC	0.022MF 5% 50V				
C624	1-136-165-00	FILM	0.1MF 5% 50V	C1207	1-126-101-11	ELECT	100MF 20% 16V				
C625	1-124-910-11	ELECT	47MF 20% 50V	C1208	1-124-927-11	ELECT	4.7MF 20% 50V				
C626	1-124-120-11	ELECT	220MF 20% 25V	C1209	1-124-927-11	ELECT	4.7MF 20% 50V				
C627	1-124-120-11	ELECT	220MF 20% 25V	C1210	1-124-925-11	ELECT	2.2MF 20% 50V				
C628	1-124-907-11	ELECT	10MF 20% 50V	C1211	1-124-925-11	ELECT	2.2MF 20% 50V				
C629	1-126-800-51	ELECT	2200MF 20% 35V	C1212	1-137-387-11	FILM	0.001MF 5% 100V				
C630	1-126-800-51	ELECT	2200MF 20% 35V	C1213	1-137-387-11	FILM	0.001MF 5% 100V				
C631	1-124-916-11	ELECT	22MF 20% 50V	C1214	1-126-101-11	ELECT	100MF 20% 16V				
< CONNECTOR >											
CN600	A 1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		C1215	1-136-173-00	FILM	0.47MF 5% 50V				
CN601	A 1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P									

**D**

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Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
CN602 ▲	*1-695-292-11	PIN, CONNECTOR (POWER)					< FERRITE BEAD >
CN800	*1-580-798-11	CONNECTOR PIN (DY) 6P		FB600	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
CN803	1-695-915-11	TAB (CONTACT)		FB601	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
CN804	1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P		FB602	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
CN807	1-568-878-51	PIN, CONNECTOR 3P		FB604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
CN901	*1-564-519-11	PLUG, CONNECTOR 4P		FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
CN902	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P		FB606	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
CN1200	*1-568-879-11	PIN, CONNECTOR 4P					
CN1201	*1-568-878-51	PIN, CONNECTOR 3P					< IC >
		< DIODE >		IC500	8-759-192-71	IC STV9379	
D500	8-719-109-85	DIODE RD5.1ESB2		IC600	8-759-183-88	IC STR-S6708	
D502	8-719-979-85	DIODE EGP20G		IC601 ▲	8-749-924-93	IC TLP621GR	
D503	8-719-979-85	DIODE EGP20G		IC602	8-749-923-26	IC SE135N-LF12	
D504	8-719-901-33	DIODE 1SS133		IC603	8-759-013-06	IC MC7805CT	
D505	8-719-982-03	DIODE MTZJ-3.6A		IC604	8-759-250-63	IC TL750L05CLP	
D506	8-719-901-33	DIODE 1SS133		IC605	8-759-701-79	IC NJM7812FA	
D507	8-719-109-85	DIODE RD5.1ESB2		IC606	8-759-267-25	IC LM2940T-90	
D600	8-719-510-53	DIODE D4SB60L		IC800	8-759-103-93	IC UPC393C	
D601	8-719-046-77	DIODE EM1-V1		IC1200	8-759-250-68	IC TDA7264	
D603	8-719-109-97	DIODE RD6.8ESB2		IC1201	8-759-502-21	IC TDA2822M	
D604	8-719-046-75	DIODE EU-1-V1					< COIL >
D605	8-719-312-61	DIODE EU-1Z		L502	1-412-519-11	INDUCTOR	3.3UH
D606	8-719-312-61	DIODE EU-1Z		L503	1-412-519-11	INDUCTOR	3.3UH
D607	8-719-046-78	DIODE EG-1Z-V1		L609	1-412-533-21	INDUCTOR	47UH
D608	8-719-046-75	DIODE EU-1-V1		L611	1-412-533-21	INDUCTOR	47UH
D609	8-719-301-64	DIODE RU4DS		L612	1-414-415-11	INDUCTOR	0UH
D610	8-719-046-74	DIODE AU-01Z-V1					
D611	8-719-302-43	DIODE EL1Z		L613	1-414-415-11	INDUCTOR	0UH
D612	8-719-046-76	DIODE RU-3YX-V1		L800	1-459-087-00	COIL,HCC DUST CORE 3.9MMH	
D613	8-719-302-43	DIODE EL1Z		L801	1-459-111-00	COIL, DRAM CORE (CDI)	
D614	8-719-302-43	DIODE EL1Z		L802	1-459-104-00	COIL, WITH CORE	
D615	8-719-046-75	DIODE EU-1-V1		L803	1-420-872-00	COIL, AIR CORE	
D616	8-719-110-03	DIODE RD7.5ESB2					
D617	8-719-901-33	DIODE 1SS133		L804	1-459-907-11	COIL, HORIZONTAL LINEARITY	
D618	8-719-901-33	DIODE 1SS133		L805	1-412-552-31	INDUCTOR	2.2MMH
D619	8-719-901-33	DIODE 1SS133		L806	1-412-519-11	INDUCTOR	3.3UH
D620	8-719-901-33	DIODE 1SS133		L809	1-412-533-21	INDUCTOR	47UH
D622	8-719-921-69	DIODE MTZJ-9.1					< IC LINK >
D625	8-719-901-33	DIODE 1SS133		PS600 ▲	1-532-686-21	LINK, IC 2.7A (ICP-F75)	
D626	8-719-046-74	DIODE AU-01Z-V1		PS601 ▲	1-532-686-21	LINK, IC 2.7A (ICP-F75)	
D800	8-719-901-33	DIODE 1SS133		PS602 ▲	1-532-686-21	LINK, IC 2.7A (ICP-F75)	
D801	8-719-901-33	DIODE 1SS133		PS603 ▲	1-532-686-21	LINK, IC 2.7A (ICP-F75)	
D802	8-719-901-33	DIODE 1SS133		PS801 ▲	1-532-605-21	LINK, IC 0.4A (ICP-F10)	
D803	8-719-908-03	DIODE GP08D					< TRANSISTOR >
D807	8-719-302-43	DIODE EL1Z		Q501	8-729-119-78	TRANSISTOR JC501-Q-AMMO	
D808	8-719-908-03	DIODE GP08D		Q502	8-729-173-38	TRANSISTOR 2SA733-K	
D809	8-719-018-82	DIODE RGP02-20EL-6394		Q503	8-729-900-89	TRANSISTOR DTC144ES	
D810	8-719-302-43	DIODE EL1Z		Q601	8-729-025-05	TRANSISTOR 2SC3852A-0	
D812	8-719-945-80	DIODE ERC06-15S		Q602	8-729-320-28	TRANSISTOR 2SA1667	
D813	8-719-945-80	DIODE ERC06-15S		Q603	8-729-024-35	TRANSISTOR 2SC2808STP-R	
D814	8-719-900-26	DIODE ERD29-08J		Q604	8-729-024-35	TRANSISTOR 2SC2808STP-R	
D815	8-719-908-03	DIODE GP08D		Q605	8-729-119-78	TRANSISTOR JC501-Q-AMMO	
D817	8-719-109-89	DIODE RD5.6ESB2		Q606	8-729-900-65	TRANSISTOR DTA144ES	
D902	8-719-921-69	DIODE MTZJ-9.1		Q607	8-729-119-78	TRANSISTOR JC501-Q-AMMO	
D903	8-719-921-69	DIODE MTZJ-9.1					
D904	8-719-921-69	DIODE MTZJ-9.1		Q800	8-729-119-78	TRANSISTOR JC501-Q-AMMO	
D905	8-719-921-69	DIODE MTZJ-9.1		Q801	8-729-017-06	TRANSISTOR 2SC4793	
D906	8-719-921-69	DIODE MTZJ-9.1		Q802	8-729-016-32	TRANSISTOR 2SC4927-01	
				Q803	8-729-119-80	TRANSISTOR 2SC2688-LK	
				Q805	8-729-900-89	TRANSISTOR DTC144ES	

The components identified by shading and marked **A** are critical for safety.  
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**D**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1200	8-729-119-78	TRANSISTOR JC501-Q-AMMO < RESISTOR >		R643	1-249-423-11	CARBON	3.3K 5% 1/4W
				R644	1-260-087-11	CARBON	100 5% 1/2W
				R645	1-249-422-11	CARBON	2.7K 5% 1/4W
R500	1-215-457-00	METAL	33K 1% 1/4W	R646	1-249-377-11	CARBON	0.47 5% 1/4W F
R502	1-249-421-11	CARBON	2.2K 5% 1/4W	R647	1-202-933-61	FUSIBLE	0.1 10% 1/2W F
R503	1-249-429-11	CARBON	10K 5% 1/4W	R648	1-216-397-11	METAL OXIDE	4.7 5% 3W F
R504	1-215-459-00	METAL	39K 1% 1/4W	R800	1-249-421-11	CARBON	2.2K 5% 1/4W
R505	1-249-382-11	CARBON	1.2 5% 1/4W F	R801	1-249-429-11	CARBON	10K 5% 1/4W
R506	1-215-447-00	METAL	12K 1% 1/4W	R802	1-249-431-11	CARBON	15K 5% 1/4W
R507	1-215-887-00	METAL OXIDE	150 5% 2W F	R803	1-249-423-11	CARBON	3.3K 5% 1/4W
R508	1-216-371-00	METAL OXIDE	1.5 5% 2W F	R804	1-249-430-11	CARBON	12K 5% 1/4W
R509	1-249-443-11	CARBON	0.47 5% 1/4W F	R805	1-249-425-11	CARBON	4.7K 5% 1/4W
R510	1-249-443-11	CARBON	0.47 5% 1/4W F	R812	1-249-421-11	CARBON	2.2K 5% 1/4W
R517	1-215-427-00	METAL	1.8K 1% 1/4W	R813	1-215-867-00	METAL OXIDE	470 5% 1W F
R518	1-215-427-00	METAL	1.8K 1% 1/4W	R814	1-249-411-11	CARBON	330 5% 1/4W
R520	1-215-457-00	METAL	33K 1% 1/4W	R816	1-216-481-21	METAL OXIDE	1.2K 5% 3W F
R521	1-215-461-00	METAL	47K 1% 1/4W	R817	1-216-481-21	METAL OXIDE	1.2K 5% 3W F
R522	1-249-433-11	CARBON	22K 5% 1/4W	R818	1-215-882-00	METAL OXIDE	22 5% 2W F
R523	1-249-433-11	CARBON	22K 5% 1/4W	R819	1-216-345-11	METAL OXIDE	0.47 5% 1W F
R524	1-249-425-11	CARBON	4.7K 5% 1/4W	R820	1-249-403-11	CARBON	68 5% 1/4W
R525	1-249-425-11	CARBON	4.7K 5% 1/4W	R821	1-215-884-11	METAL OXIDE	47 5% 2W F
R526	1-249-421-11	CARBON	2.2K 5% 1/4W	R822	1-215-868-00	METAL OXIDE	680 5% 1W F
R527	1-215-430-00	METAL	2.4K 1% 1/4W	R824	1-249-420-11	CARBON	1.8K 5% 1/4W
R600	1-216-490-11	METAL OXIDE	39K 5% 3W F	R826	1-247-752-11	CARBON	1K 5% 1/2W
R601	1-249-417-11	CARBON	1K 5% 1/4W	R827	1-249-425-11	CARBON	4.7K 5% 1/4W
R603	1-249-429-11	CARBON	10K 5% 1/4W	R828	1-249-427-11	CARBON	6.8K 5% 1/4W
R604	1-249-420-11	CARBON	1.8K 5% 1/4W	R829	1-249-493-11	CARBON	56K 5% 1/2W
R605	1-216-362-11	METAL OXIDE	0.27 5% 2W F	R830	1-217-778-11	FUSIBLE	1K 5% 1W F
R607	1-216-421-11	METAL OXIDE	12 5% 1W F	R833	1-249-421-11	CARBON	2.2K 5% 1/4W F
R608	1-216-365-00	METAL OXIDE	0.47 5% 2W F	R836	1-249-439-11	CARBON	68K 5% 1/4W
R610	1-249-417-11	CARBON	1K 5% 1/4W	R837	1-249-431-11	CARBON	15K 5% 1/4W
R611	1-215-859-00	METAL OXIDE	22 5% 1W F	R840	1-247-807-31	CARBON	100 5% 1/4W
R612	1-249-428-11	CARBON	8.2K 5% 1/4W	R841	1-249-418-11	CARBON	1.2K 5% 1/4W
R613	1-249-417-11	CARBON	1K 5% 1/4W	R842	1-249-441-11	CARBON	100K 5% 1/4W
R614	1-249-429-11	CARBON	10K 5% 1/4W	R843	1-247-893-11	CARBON	390K 5% 1/4W
R615	1-249-435-11	CARBON	33K 5% 1/4W	R846	1-249-441-11	CARBON	100K 5% 1/4W
R616	1-215-477-00	METAL	220K 1% 1/4W	R847	1-247-891-00	CARBON	330K 5% 1/4W
R617	1-215-901-00	METAL OXIDE	33K 5% 2W F	R848	1-247-887-00	CARBON	220K 5% 1/4W
R618	1-249-429-11	CARBON	10K 5% 1/4W	R849	1-249-429-11	CARBON	10K 5% 1/4W
R619	1-216-425-21	METAL OXIDE	56 5% 1W F	R850	1-249-425-11	CARBON	4.7K 5% 1/4W
R620	1-247-895-00	CARBON	470K 5% 1/4W	R851	1-247-764-11	CARBON	10K 5% 1/2W F
R621	1-216-425-21	METAL OXIDE	56 5% 1W F	R852	1-249-432-11	CARBON	18K 5% 1/4W
R622	1-249-437-11	CARBON	47K 5% 1/4W	R901	1-202-539-00	SOLID	39 10% 1/2W
R623	1-249-429-11	CARBON	10K 5% 1/4W	R902	1-202-539-00	SOLID	39 10% 1/2W
R624	1-249-405-11	CARBON	100 5% 1/4W F	R907	1-247-804-11	CARBON	75 5% 1/4W
R625	1-249-434-11	CARBON	27K 5% 1/4W	R916	1-249-397-11	CARBON	22 5% 1/4W
R626	1-249-430-11	CARBON	12K 5% 1/4W	R917	1-249-397-11	CARBON	22 5% 1/4W
R628	1-249-415-11	CARBON	680 5% 1/4W F	R1200	1-249-429-11	CARBON	10K 5% 1/4W
R629 A	1-244-945-91	CARBON	1M 5% 1/2W	R1201	1-249-434-11	CARBON	27K 5% 1/4W
R630 A	1-218-265-11	METAL GLAZE	8.2M 5% 1W	R1202	1-249-393-11	CARBON	10 5% 1/4W F
R631 A	1-205-949-11	WIREDOWN	1.8 5% 10W	R1203	1-249-421-11	CARBON	2.2K 5% 1/4W
R634	1-249-397-11	CARBON	22 5% 1/4W F	R1204	1-249-421-11	CARBON	2.2K 5% 1/4W
R635	1-249-437-11	CARBON	47K 5% 1/4W	R1205	1-249-428-11	CARBON	8.2K 5% 1/4W
R636	1-249-417-11	CARBON	1K 5% 1/4W	R1206	1-249-428-11	CARBON	8.2K 5% 1/4W
R637	1-249-409-11	CARBON	220 5% 1/4W	R1207	1-249-417-11	CARBON	1K 5% 1/4W
R638	1-249-433-11	CARBON	22K 5% 1/4W	R1208	1-212-849-00	FUSIBLE	4.7 5% 1/4W F
R639	1-249-429-11	CARBON	10K 5% 1/4W	R1209	1-212-849-00	FUSIBLE	4.7 5% 1/4W F
R640	1-216-381-11	METAL OXIDE	0.22 5% 3W F	R1210	1-249-417-11	CARBON	1K 5% 1/4W
R641	1-216-381-11	METAL OXIDE	0.22 5% 3W F	R1211	1-249-424-11	CARBON	3.9K 5% 1/4W
R642 A	1-205-949-11	WIREDOWN	1.8 5% 10W	R1212	1-249-424-11	CARBON	3.9K 5% 1/4W

D VM H1

... components identified by shading and marked A are critical for safety.  
Replace only with the part number specified.

The components identified by shading and marked **A** are critical for safety.  
Replace only with the part number specified.

**H1**

**H2**

**H3**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
< JACK >							
J900	1-562-837-11	JACK					
< COIL >							
L900	1-408-409-00	INDUCTOR	10UH				
L901	1-408-409-00	INDUCTOR	10UH				
< RESISTOR >							
R905	1-247-804-11	CARBON	75 5%	1/4W			
R906	1-247-804-11	CARBON	75 5%	1/4W			
R909	1-249-437-11	CARBON	47K 5%	1/4W			
R910	1-249-437-11	CARBON	47K 5%	1/4W			
R915	1-249-397-11	CARBON	22 5%	1/4W			
*****							
*1-652-269-11 H2 BOARD							
*****							
< CAPACITOR >							
C904	1-124-910-11	ELECT	47MF	20%	50V		
C905	1-124-907-11	ELECT	10MF	20%	50V		
< CONNECTOR >							
CN907	1-564-509-11	PLUG, CONNECTOR 6P					
< DIODE >							
D901	8-719-948-60	DIODE SLR-54VR3					
	4-202-707-01	HOLDER, LED (D901)					
< IC >							
IC900	8-741-790-51	IC SBX1790-51					
< RESISTOR >							
R900	1-249-409-11	CARBON	220 5%	1/4W			
R908	1-249-401-11	CARBON	47 5%	1/4W			
*****							
*1-652-270-11 H3 BOARD							
*****							
< RESISTOR >							
R911	1-249-423-11	CARBON	3.3K 5%	1/4W			
R912	1-249-429-11	CARBON	10K 5%	1/4W			
R913	1-249-423-11	CARBON	3.3K 5%	1/4W			
R914	1-249-429-11	CARBON	10K 5%	1/4W			
< SWITCH >							
S900	1-692-979-11	SWITCH, TACTILE					
S901	1-692-979-11	SWITCH, TACTILE					
S902	1-692-979-11	SWITCH, TACTILE					
*****							
MISCELLANEOUS							
*****							
A	1-402-747-21	COIL, DEGAUSSING					
A	8-451-313-61	DEFLECTION YOLK Y29PIA					
	1-692-979-11	SPEAKER 7.5 x 13CM					
A	1-751-680-11	CORD POWER (WITH NOISE FILTER)					
		(KV-X2901A/X2901D)					
A	1-590-460-11	CORD POWER (WITH CONNECTOR)					
		(KV-X2900B/X2901B/X2903E/X2901K)					
A	1-590-762-11	CORD POWER (WITH PLUG)					
		(KV-X2902L/X2902U)					
V901 A	8-733-831-05	PICTURE TUBE SD-191 (A68JYL61X)					
*****							
ACCESSORIES AND PACKING MATERIALS							
*****							
4-202-699-11	MANUAL INSTRUCTION (GERMAN/ENGLISH/DUTCH/GREEK)						
4-202-699-41	MANUAL INSTRUCTION (ITALIAN)						
4-202-699-51	MANUAL INSTRUCTION (FRENCH)						
4-202-699-61	MANUAL INSTRUCTION (ENGLISH)						
4-202-699-71	MANUAL INSTRUCTION (SPANISH)						
4-202-699-81	MANUAL INSTRUCTION (GERMAN/DANISH/FRENCH/NORWEGIAN)						
	(DUTCH/PORTUGUESE/SWEDISH/FINNISH)						
4-202-699-91	MANUAL INSTRUCTION (HUNGARIAN/CZECH/POLISH/RUSSIAN)						
	(BULGARIAN)						
*1-692-979-11	BAG, PROTECTION						
*1-692-979-11	CUSHION (UPPER) (ASSY)						
*1-751-680-11	CUSHION (LOWER) (ASSY)						
*1-590-762-11	INDIVIDUAL CARTON						
*****							
REMOTE COMMANDER							
*****							
1-467-706-11	COMMANDER (RM833)						
*****							

# SERVICE MANUAL

7296  
BE-3B CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2901D	RM-833	AEP	SCC-G77B-A	KV-X2903E	RM-833	Spanish	SCC-G82B-A
KV-X2901A	RM-833	Italian	SCC-G81B-A	KV-X2902L	RM-833	IRISH	SCC-G83B-A
KV-X2900B	RM-833	French	SCC-G85B-A	KV-X2902U	RM-833	UK	SCC-G87B-A
KV-X2901B	RM-833	French	SCC-G84B-A	KV-X2901K	RM-833	OIRT	SCC-G86A-A

## CORRECTION - 1

SUBJECT: CORRECTED SPECIFICATIONS

File this correction with the service manual

(See page 2)

### Incorrect

ITEM	MODEL	Television System	Stereo System	Channel Coverage	Color System
AEP	B/G/H, D/K	GERMAN Stereo		PAL B/G/H VHF-E2-E12 UHF-E21-E69 CABLE TV (1)S1-S41 CABLE TV (2)S01-S05, M1-M10, U1-U10 ITALIA VHF-A-H2 (C) UHF-21-69 DK VHF-R01-R12 UHF-R21-R69	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Italian	B/G/H, D/K	GERMAN Stereo		ITALIA VHF-A-H2 (C) UHF-21-69 PAL B/G/H VHF-E2-E12 UHF-E21-E69 CABLE TV (1)S1-S41 CABLE TV (2)S01-S05, M1-M10, U1-U10 DK VHF-R01-R12 UHF-R21-R69	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K L, I	GERMAN Stereo		L VHF-F02-F10 UHF-F21-F60 CABLE-B-O B/G/H VHF-E2-E12 UHF-E21-E69 CABLE TV (1)S1-S41 CABLE TV (2)S01-S05, M1-M10, U1-U10 ITALIA VHF-A-H2 (C) UHF-21-69 I UHF-B21-B69	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo		PAL B/G VHF E2-E12 UHF E21-E69 CABLE TV (1)S1-S41 CABLE TV (2)S01-S05, M1-M10, U1-U10 ITALIA VHF-A-H2 (C) UHF-21-69 DK VHF-R01-R12 UHF-R21-R69	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Irish	I	NICAM Stereo		VHF A-C, D-J, UHF 21-69 CABLE CHANNELS S1-S20 HYPERBAND S21-S41	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN Stereo	B/G/H VHF-E2-E12 UHF-E21-E69 CABLE TV (1)S1-S41 DK VHF-R01-R12 UHF-R21-R69	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

### Correct

ITEM	MODEL	Television System	Stereo System	Channel Coverage	Color System
AEP	B/G/M, D/K	GERMAN Stereo		PAL B/G/H VHF-E2-E12 UHF-E21-E69 CABLE TV (1)S1-S41 CABLE TV (2)S01-S05, M1-M10, U1-U10 ITALIA VHF-A-H2 (C) UHF-21-69 DK VHF-R01-R12 UHF-R21-R69	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Italian	B/G/H		GERMAN Stereo	ITALIA VHF-A-H2 (C) UHF-21-69 PAL B/G/H VHF-E2-E12 UHF-E21-E69 CABLE TV (1)S1-S41 CABLE TV (2)S01-S05, M1-M10, U1-U10	PAL NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, L, I		KV-X2501B GERMAN Stereo	L VHF-F02-F10 UHF-F21-F60 CABLE-B-O B/G/H VHF-E2-E12 UHF-E21-E69 CABLE TV (1)S1-S41 CABLE TV (2)S01-S05, M1-M10, U1-U10 ITALIA VHF-A-H2 (C) UHF-21-69 I UHF-B21-B69	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H,		GERMAN/NICAM Stereo	PAL B/G VHF E2-E12 UHF E21-E69 CABLE TV (1)S1-S41 CABLE TV (2)S01-S05, M1-M10, U1-U10 ITALIA VHF-A-H2 (C) UHF-21-69	PAL NTSC4.43, NTSC3.58 (VIDEO IN)
Irish	I		NICAM Stereo	VHF A-C, D-J, UHF 21-69 CABLE CHANNELS S1-S20 (C) HYPERBAND S21-S41	PAL NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I		NICAM Stereo	UHF : B21-B69	PAL NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN Stereo	B/G/H VHF-E2-E12 UHF-E21-E69 CABLE TV (1)S1-S41 DK VHF-R01-R12 UHF-R21-R69	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)	PAL SECAM NTSC4.43, NTSC3.58 (VIDEO IN)



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Consumer A & V Products Company  
TV & Display Products Div.

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# SONY

# SERVICE MANUAL

# BE-3B CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2901D	RM-833	AEP	SCC-G77B-A	KV-X2903E	RM-833	Spanish	SCC-G82B-A
KV-X2901A	RM-833	Italian	SCC-G81B-A	KV-X2902L	RM-833	IRISH	SCC-G83B-A
KV-X2900B	RM-833	French	SCC-G85B-A	KV-X2902U	RM-833	UK	SCC-G87B-A
KV-X2901B	RM-833	French	SCC-G84B-A	KV-X2901K	RM-833	OIRT	SCC-G86A-A

## CORRECTION - 2

**SUBJECT: CORRECTED PART NUMBERS**

File this correction with the service manual

- INTRODUCTION :** 1. ALL MODELS.  
2. ALL MODELS.  
3. KV-X2901D/X2901A/X2900B/X2901B/X2903E/X2901K only.

:Indicates corrected portion.

## SECTION 6 EXPLODED VIEWS

6-2.PICTURE TUBE (See page 58)

Item 1

INCORRECT				CORRECT			
REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
53	4-386-710-11	CATCHER, PUSH		53	4-392-036-11	CATCHER, PUSH	

## SECTION 6 EXPLODED VIEWS, SECTION 7 ELECTRICAL PARTS LIST

6-1 CHASSIS (See page 57), F1 BOARD (See page 59), H2/H3 boards (See page 71)

Item 2

INCORRECT				CORRECT			
REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
*1-652-270-11	H3 BOARD *****			*A-1646-059-A	H3 BOARD, COMPLETE *****		
*1-652-269-11	H2 BOARD *****			*A-1646-058-A	H2 BOARD, COMPLETE *****		
*1-652-271-11	F1 BOARD *****			*A-1624-029-A	F1 BOARD, COMPLETE *****		

## SECTION 7 ELECTRICAL PARTS LIST

A BOARD (See page 61)

Item 3

INCORRECT				CORRECT			
REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
CF101	0-550-400-00	EFCV 4045 A4		CF101	1-760-154-21	EFCV 4045 A4	
CF103	0-550-808-10	SFE 5.5MC2		CF103	1-760-106-21	SFE 5.5MC2	
CF106	0-550-809-10	SFE 5.75MC2		CF106	1-760-107-21	SFE 5.75MC2	



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Consumer A & V Products Company  
TV & Display Products Div.

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